COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS

OCTOBER 1945

Illustrated: New 1½-Ton Chassis and Cab with Refrigerator Body.

Job-Rated: the big attraction in trucks !

UNLESS you have a truck that *fits your job*, either you waste money on a truck that's *too big*, or you gamble against breakdowns and frequent repairs with one that's *too small*.

That's why "*Job-Rated*" trucks are the "big attraction" for buyers who insist on transportation at the lowest possible cost *per ton mile*.

Job-Rated engines, with power to fit each truck capacity, give you performance with *economy*. Transmission, clutch, drive shaft, rear axle, and *every other unit* are soundly engineered and precision-built to *fit* the job and *do* the job . . . with long-lasting dependability.

BUY VICTORY BONDS

Your Dodge dealer is now taking orders for these new Dodge *Job-Rated* trucks in ½, 1, 1½ and 2-ton capacities. If *your* hauling job requires trucks in any of these capacities—see him at once for a truck to fit your job!

DODGE DIVISION OF CHRYSLER CORPORATION

Truck Parts Are Important—Owners tell us they'll long remember the quick wartime availability of factory-engineered Dodge truck parts. Parts when you need them: that's the Dodge way . . . your protection from costly delay.

LISTEN TO THE MUSIC OF ANDRE KOSTELANETZ, WITH GUEST STARS, THURSDAYS, CBS, 9 P.M., E.W.T.

DODGE *Job-Rated* TRUCKS

FIT THE JOB . . . LAST LONGER

COMMERCIAL CAR JOURNAL

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FEATURE ARTICLES

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"WONDERFUL SUCCESS"

"WE ARE HAVING wonderful success with this model," writes H. C. Thompson, president Tri-State Transfer Company, Inc., Minneapolis, referring to two International K-7's.

"Our operations," Mr. Thompson continues, "extend out in very hilly country, namely western South Dakota, and we haul capacity pay loads, with a minimum of six miles or better to the gallon of gasoline.

"We congratulate you."

Tri-State Transfer's fleet is all Internationals. Wheelbases of the K-7's described are 134 inches; axle ratios are 7:16 to 1; transmissions are five-speed, with overdrive in fifth; engines are famous International 269 Blue Diamond.

Back of these trucks are three things basic to all Internationals. 1. Recommendation of ample capacity and power for the work to be done. 2. A performance record so outstanding that in the 10 years before the war more heavy-duty Internationals were sold than any other make. 3. The nation's largest company-owned truck service organization, and a network of dealers that puts International truck service within easy driving distance of virtually every point in the United States.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue Chicago 1, Illinois

NEW TRUCKS: The government has authorized the manufacture of a limited quantity of light, medium and heavy-duty International trucks for essential civilian hauling.

SERVICE: Many operators will have to wait for trucks. Maintenance of existing vehicles is just as important today as before VE Day. Therefore—be sure your trucks get top maintenance and service at International Truck Dealers and Branches.

INTERNATIONAL *Trucks*

COMMERCIAL CAR JOURNAL
VOL. LXX, NO. 2, PHILADELPHIA, OCTOBER, 1945

WASHINGTON RUNAROUND

ODT Washout by Dec. 1 . . . District Offices by Oct. 30. Regional Offices by Dec. 1 . . . Delivery Order Controversy . . . Showdown Coming . . . ODT to End Midwest Truck Operation by Oct. 30 . . . 4th Quarter Tire Outlook Good . . . New Cars Ration-Free? . . . Etc.

by GEORGE T. HOOK

ODT Washout by Dec. 1

Official plans call for complete washing out of the ODT Highway Transport Department by Dec. 1. All district and field offices will be closed by Oct. 30. Regional offices will remain open throughout November. Each will be staffed by two men and a girl. They will be available to answer any questions that operators have about ODT matters. By Dec. 1 all regional offices will be closed.

Hq. Staff Under a Dozen

The headquarters staff in Washington by the middle of October will be down to less than a dozen men and probably fewer stenographers. The entire staff will be quartered in the Interstate Commerce Commission Building, occupying a bare minimum of offices on the fourth and fifth floors. It is possible that some of the staffmen may leave during November, but all of them will be off the ODT payroll Dec. 1.

The Runaround Was Right

Readers who have read this department carefully each month to keep abreast and even ahead of ODT doings, will be interested to know that the Runaround was not off the beam when it speculated long before V-J day that barring truck and tire production contingencies, the ODT Highway Transport Department would be demobilized by Jan. 1. What was the official plan? The question was put by this department to Director Guy Richardson. He answered that even if the Japs had not surrendered the plan called for demobilization by Jan. 1 unless contingencies had arisen in the truck and tire production programs. This department admitted at the time that it had nothing official on which to base its speculation. However, as the result of personal conversations, it was fully aware of Director Richardson's desire to demobilize quickly and it knew that the preparation of plans was begun as soon as the end of the war in Europe was in sight. Inklings of these plans as they developed gave this department sufficient basis for speculating on the end.

Delivery Order Controversy

Although the end of ODT was in sight there was yet no end of controversy throughout September and early October. It centered around ODT's decision to continue restrictions on the frequency of deliveries until Nov. 1. Organized labor, with Dave Beck leading the assault, protested that ODT had failed to keep a promise made back in 1943, asserted that the restrictions should have come off with the end of hostilities, and demanded that ODT reconsider its decision. ODT dug out of its files a letter from the late ODT Director Eastman to Mr. Beck which expressly stated that ODT could not set an expiration date on the delivery restriction order but that the order would not be continued "after the need for it ceases."

Immediate Revocation Asked

In choosing the expiration date of Nov. 1, ODT felt that truck operators needed the time between V-J day and Nov. 1 to make necessary adjustments and that the leeway was desirable in view of the continuing need for conservation until truck, tire and manpower shortages ease up. ODT has let organized labor know that it is not disposed to reconsider its Nov. 1 expiration date. As a result a campaign of protest is in progress. Labor groups, American Legion posts and Congressmen (who have had the pressure put on them) are deluging ODT with demands to revoke the frequency order at once. They claim that its continuance is at the expense of providing employment.

Politics in the Picture

Now that politics has entered the picture anything can happen. But

(TURN TO NEXT PAGE, PLEASE)

WASHINGTON RUNAROUND

(CONTINUED FROM PAGE 35)

judging by prevailing sentiment in ODT only a direct order from the White House will change the Nov. 1 date for expiration of the frequency of delivery order. As a possibility, this cannot be ruled out. However, Nov. 1 is so few weeks away that it cannot matter much one way or the other. In fact, in some cities—as the ODT is well aware—the frequency order is now being violated. In those cities operators are back to every day deliveries, special deliveries and call-backs. ODT sees no reason why it should get tough about it.

Delivery Showdown Coming

No matter what happens between now and Nov. 1 on delivery frequency, it appears a certainty that this issue will come to a showdown between operators, organized labor and OPA. In Philadelphia a milk group has voted to continue every-other-day deliveries even after Nov. 1. In Portland, Ore., the milk regulatory board passed a regulation declaring it to be an unfair trade practice to make daily deliveries. (That's in Dave Beck's bailiwick.) In California organized labor killed legislation which would have had a similar effect. Milkmen claim that the difference in cost between every-day and every-other-day delivery is 1 cent a quart. If management cannot resist the efforts of labor unions, it will in turn insist upon a price increase, and that's when the showdown will involve the OPA.

End of ODT Truck Operation

Another ODT activity which will be terminated by Oct. 30 is the government operation of mid-west truck lines. As of Sept. 26 ODT had returned to their owners 38 of the original 103 lines taken over. Another 15 were scheduled for return within a matter of days. The remainder would be returned by the end of October. Claims of operators and shippers will be handled thereafter by another Government agency. ODT's government operator will prepare an accounting for ODT Director Monroe who will submit it in the form of a report to the President. It is not known at this time if the report will be made public. Whether it is or not, one thing is certain: government operation will not show a profit. Those who are best informed say that in the very nature of things, a profit showing was not in the cards. This means that the employees will not receive any of the retroactive pay increase promised them in the event of profitable operation. But mid-western states may get the mileage taxes which civilian operators would have paid but which the Government has refused to pay. The ODT after a study has recommended that the mileage taxes be paid to the states. It is now up to the Comptroller General of the United States to decide whether to pay it or not.

4th Q. Tire Outlook Good

The truck tire outlook for the fourth quarter is good. The production estimate is 3,850,000. While WPB will not make any civilian allocations for the fourth quarter, civilian operators are expected to get 2,200,000 tires out of the total. ODT's bid for original equipment was 1,300,000. The only definite allocation is 400,000 truck tires for the Federal Economic Administration. The military has no requirements in the fourth quarter. Anyone who takes the trouble to check on the figures given above will find that they add up to 50,000 more tires than the 3,850,000 production estimate. But unless the truck production outlook improves there will be at least a 50,000 surplus in the original equipment pool.

October Tire Allotments

For replacement purposes in the month of October OPA has made an allotment of 250,000 truck tires in sizes 8.25 and up and 500,000 in sizes 7.50 and down. The 8.25 allotment compares with September when a 50,000 bonus was added to the original allotment of 200,000. In the other sizes the September allotment was 386,000, which a 140,000 bonus raised to 526,000. The October allotment is considered adequate to take care of the needs of the most essential operators on the tire essentiality list. There is still a tightness in 7.00 and 7.50 ten-ply, 10.00 and 11.00 sizes.

Truck Production Program Off

The fourth quarter truck production outlook is not so good. (See page 78 for details.) Production also made a poor showing in the third quarter. The program called for about 130,000 trucks in the third quarter. In July 21,562 were manufactured, in August 27,532, and September was expected to be around 33,000. That would be about 48,000 short of the program. With production going at such a slow rate and labor difficulties on the horizon it will be a miracle if the approximately 300,000 trucks programmed for the fourth quarter are produced. And what about 1946? Well, over in the WPB one automotive division official is said to be guessing that 1,500,000 trucks will be produced in 1946.

New Cars Ration-Free?

Some other guessing in Washington is that new passenger cars will not be subject to rationing. A plan is said to be afoot which would provide certain essential users with special certificates if they cannot otherwise get a car.

ICC Tightening Safety Rules

The Safety Section of the ICC Bureau of Motor Carriers has tentative plans for tightening up on safety provisions affecting interstate truck operations. Changes in physical requirements and hours of service may be expected. Additional safety inspectors have been put on by the section and more will be hired.

Miscellany

Lead and tin are still critical items but ODT expects all of its battery requirements to be met during the fourth quarter. . . . Not any part of ODT highway transport regulations will be taken over by ICC when ODT washes out Dec. 1. . . . The American Trucking Associations, Inc., will hold its convention in Cincinnati, Jan. 14 to 17. . . . ODT's Bill Cumming has said "yes" to The White Motor Co.

A Final Word About ODT

THE ODT Highway Transport Department will not pass from reality to memory until Dec. 1. It is not yet dead. But since it is in a period of suspended animation now is as good a time as any to hold the "wake." Not to mourn, but merely to pay final respects.

Except for one move early in its life, the ODT has done nothing that truck operators could say was harmful to their welfare. It has done much that was beneficial . . . to operators and through them to the war effort.

The one bad move came in connection with the Certificate of War Necessity Order when arbitrary mileage cuts were imposed. The hue and cry was heard immediately in Washington. Director Eastman admitted a mistake had been made and corrected it. Thereafter truck operators never lacked for all the gasoline they needed to conduct their businesses. The ODT was well aware that because of the over-liberal estimates of many operators it was allotting more gasoline than was actually needed. But it did not make this knowledge the cause for an industry-wide crackdown.

A generous rather than a harsh attitude toward truck operators was typical of the ODT throughout the war. Among ODT's early brain-trusters there were those who advocated toughness in order to achieve conservation results more quickly. They wanted enforcement with sharp teeth to draw blood at once. The forces favoring a policy of voluntary cooperation prevailed. This policy produced the desired results. There were penalties for not complying with the various orders, but on the whole they were toothless because ODT didn't really want to bite anybody.

Voluntary cooperation was really a two-way thoroughfare. On its side of the street ODT cooperated by giving industry groups a say in the formulation of conservation orders. The orders that had industry support in discussion stages, worked out in practice. Those that had industry opposition—notably the traffic registration order—failed. But even in the case of the latter, which had large potential opportunities for mileage conservation, the ODT did not make any attempt to force its will on the industry. It made an effort to stimulate compliance but when that pistol failed to go off it did not pummel operators with the butt end.

Another example of cooperation was in ODT's choice of personnel to administer the orders. It saw the wisdom of having men who knew transportation, and so it recruited its key personnel from the automotive transportation industries. These men viewed truck operators' problems sympathetically while trying to do an honest job for the government.

In Washington and in the field it can be said that ODT administration was temperate and considerate.

In the arena with other government agencies ODT for a while tried to battle for the civilian share of materials with 16 oz. gloves while the others were using bare fists. Industry brought this to ODT's attention and while thereafter ODT at no time battled anything out in the newspapers it did throw its weight around with greater effect than before. It made its demands on the basis of industry's needs, fought for them in the various committees and compromised only when military necessities indicated no alternative.

When hostilities stopped ODT made good its promise to cancel restrictive orders as quickly as possible. Some were revoked immediately and others were continued for a short period just to enable operators to adjust themselves more conveniently. Pressure groups tried to have some of the orders continued for selfish purposes but it is to ODT's credit that all such efforts were resisted. The goal was a speedy return to unrestricted competitive practice. In this respect, and in that of demobilizing in a minimum of time to save the taxpayers millions of dollars, the ODT set an example unmatched by any other wartime agency.

If there is a truck operator in the audience who can say truthfully that the ODT was unfair to him and did him harm, let him step forward and have a monument erected to his memory as the exception to the rule.

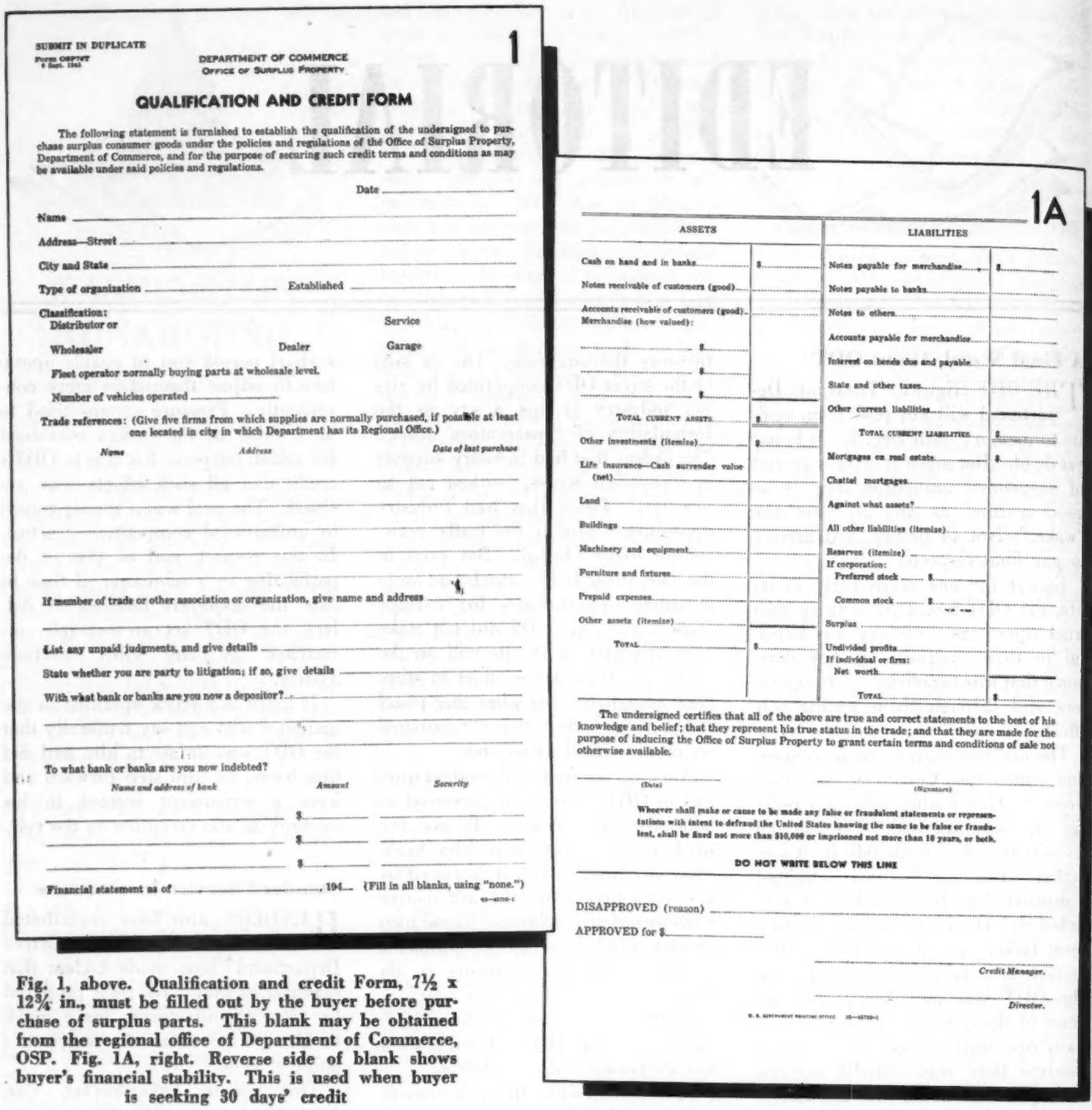
Standard Service Instructions

READERS who have contributed to the "Service Manual Gripes Department" have made it clear that manuals as they have been prepared by most manufacturers leave much to be desired from the shopman's point of view.

This month COMMERCIAL CAR JOURNAL gives considerable space to a proposal which would revolutionize service instructions . . . and they apparently need some such drastic action if the needs of fleet superintendents, foremen and mechanics are to be met.

The idea has the backing of the Society of Automotive Engineers. If it can get the backing of fleetmen there can be no doubt that leading manufacturers would be disposed to make the investment it entails.

Along with coming postwar truck models there should be a new model in service instructions. The Standard Practice proposal seems to be that model. The article describing it is on page 62.



SUBMIT IN DUPLICATE

Form OSP707
6 Sept. 1945

DEPARTMENT OF COMMERCE
OFFICE OF SURPLUS PROPERTY

1

QUALIFICATION AND CREDIT FORM

The following statement is furnished to establish the qualification of the undersigned to purchase surplus consumer goods under the policies and regulations of the Office of Surplus Property, Department of Commerce, and for the purpose of securing such credit terms and conditions as may be available under said policies and regulations.

Date .....

Name .....

Address—Street .....

City and State .....

Type of organization ..... Established .....

Classification:
Distributor or Service
Wholesaler Dealer Garage

Fleet operator normally buying parts at wholesale level.

Number of vehicles operated .....

Trade references: (Give five firms from which supplies are normally purchased, if possible at least one located in city in which Department has its Regional Office.)

Name	*Address*	*Date of last purchase*

If member of trade or other association or organization, give name and address .....

List any unpaid judgments, and give details .....

State whether you are party to litigation; if so, give details .....

With what bank or banks are you now a depositor? .....

To what bank or banks are you now indebted?

Name and address of bank	*Amount*	*Security*
	$	
	$	
	$	

Financial statement as of ....., 194... (Fill in all blanks, using "none.")

1A

ASSETS		LIABILITIES	
Cash on hand and in banks	$	Notes payable for merchandise	$
Notes receivable of customers (good)		Notes payable to banks	
Accounts receivable of customers (good)		Notes to others	
Merchandise (how valued):		Accounts payable for merchandise	
$		Interest on bonds due and payable	
$		State and other taxes	
$		Other current liabilities	
TOTAL CURRENT ASSETS	$	TOTAL CURRENT LIABILITIES	$
Other investments (itemize)	$	Mortgages on real estate	$
Life insurance—Cash surrender value (net)		Chattel mortgages	
Land		Against what assets?	
Buildings		All other liabilities (itemize)	
Machinery and equipment		Reserves (itemize)	
Furniture and fixtures		If corporation:	
Prepaid expenses		Preferred stock $	
Other assets (itemize)		Common stock $	
TOTAL	$	Surplus	
		Undivided profits	
		If individual or firm:	
		Net worth	
		TOTAL	$

The undersigned certifies that all of the above are true and correct statements to the best of his knowledge and belief; that they represent his true status in the trade; and that they are made for the purpose of inducing the Office of Surplus Property to grant certain terms and conditions of sale not otherwise available.

(Date) (Signature)

Whoever shall make or cause to be made any false or fraudulent statements or representations with intent to defraud the United States knowing the same to be false or fraudulent, shall be fined not more than $10,000 or imprisoned not more than 10 years, or both.

DO NOT WRITE BELOW THIS LINE

DISAPPROVED (reason) .....

APPROVED for $.....

Credit Manager.

Director.

U. S. GOVERNMENT PRINTING OFFICE 16—45709-1

Fig. 1, above. Qualification and credit Form, 7½ x 12¾ in., must be filled out by the buyer before purchase of surplus parts. This blank may be obtained from the regional office of Department of Commerce, OSP. Fig. 1A, right. Reverse side of blank shows buyer's financial stability. This is used when buyer is seeking 30 days' credit

Conditions and Procedures for

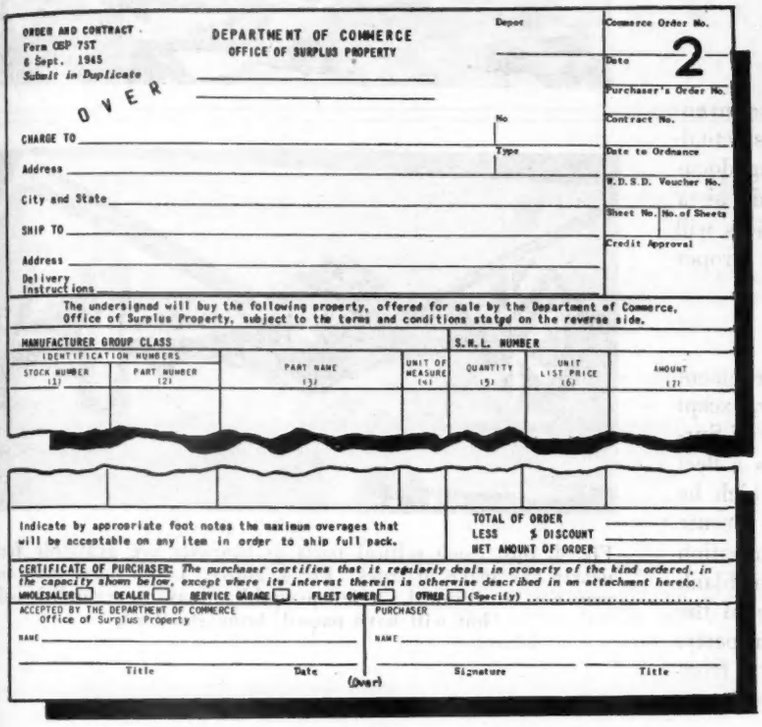
HIGHLIGHTS OF SALES CONDITIONS

This article has been prepared especially for COMMERCIAL CAR JOURNAL by the Office of Surplus Property, Department of Commerce. It has been approved by the OSP Automotive Division and by the Legal Department.

This new OSP program is designed to release $300,000,000 worth of much needed automotive parts—everything from a cotter pin to a complete engine—on a standard price list basis, 45 per cent discount, instead of the former bid method.

To obtain parts, fleet operators first must establish their standing with the regional OSP office, whether they intend to purchase on a cash or credit basis.

Then there are certain conditions of sale that must be kept in mind. First, the minimum order of individual items that will be accepted is a single package. Just what constitutes a package is impossible to define without contacting OSP. However, fleet operators may send an order for the quantity desired, and the acceptable maximum, with the understanding that the quantity shipped will not be more or less than 10 per cent of the original amount specified in their orders.



ORDER AND CONTRACT
Form OSP 75T
6 Sept. 1945
Submit in Duplicate

OVER

DEPARTMENT OF COMMERCE
OFFICE OF SURPLUS PROPERTY

Depot

Commerce Order No. 2
Date
Purchaser's Order No.
Contract No.
Date to Ordnance
W.D.S.D. Voucher No.
Sheet No. | No. of Sheets
Credit Approval

CHARGE TO
No
Type
Address
City and State
SHIP TO
Address
Delivery Instructions

The undersigned will buy the following property, offered for sale by the Department of Commerce, Office of Surplus Property, subject to the terms and conditions stated on the reverse side.

MANUFACTURER GROUP CLASS
S.N.L. NUMBER

IDENTIFICATION NUMBERS						
STOCK NUMBER (1)	PART NUMBER (2)	PART NAME (3)	UNIT OF MEASURE (4)	QUANTITY (5)	UNIT LIST PRICE (6)	AMOUNT (7)

Indicate by appropriate foot notes the maximum overages that will be acceptable on any item in order to ship full pack.

TOTAL OF ORDER
LESS $ DISCOUNT
NET AMOUNT OF ORDER

CERTIFICATE OF PURCHASER: *The purchaser certifies that it regularly deals in property of the kind ordered, in the capacity shown below, except where its interest therein is otherwise described in an attachment hereto.*
WHOLESALER ☐ DEALER ☐ SERVICE GARAGE ☐ FLEET OWNER ☐ OTHER ☐ (Specify) .....

ACCEPTED BY THE DEPARTMENT OF COMMERCE
Office of Surplus Property
NAME
Title Date

PURCHASER
NAME
Signature Title

(Over)

Fig. 2, left. Order and Contract Form, 8 x 10½ in., used by buyers when placing orders for automotive parts, equipment and accessories. On reverse side are conditions pertaining to sales. Fig. 3, above. A diversity of small parts made by various manufacturers is offered through OSP

IN A vast new program, the Office of Surplus Property, Department of Commerce, is releasing for sale $300,000,000 worth of automotive parts on a standard price list basis instead of the former bid method. Everything will be available from a cotter pin to an engine—blocks, transmissions, axles, differentials, spark plugs, etc.

This program is designed to bring the sale of automotive parts, equipment and accessories, as shown in manufacturers' parts catalogs, as near to over-the-counter sales as possible. It has all the features of fast action, and will bring quickly to the market such automotive parts as are needed right now.

Method of declaration of surplus is simplified; maximum utilization is made of Army personnel and depots; the complicated cross-reference work from manufacturer parts number to Ordnance numbers is centralized in the Detroit Office of Surplus Property. The separation of responsibility is as follows: The regional offices of Surplus Property will take the orders; the Army will fill and ship from their depot stocks; the Automotive Parts Office (of the Office of Surplus Property) in Detroit, will prepare invoices; the regional offices will mail invoices, effect collections and maintain the records.

Declaration of surplus of automotive parts will not be made in the usual fashion. The stock of parts in Army depots will be considered as stock against which orders

(TURN TO NEXT PAGE, PLEASE)

Fleet Buying of Surplus Parts

No order will be accepted for less than $500—total net value after discounts.

Separate order blanks should be used by the purchaser for each type or model of vehicle.

In filling orders, the Army may ship the part number requested or another part number interchangeable with it. This should be clearly understood as it is one of the conditions of sale.

Other conditions are outlined in the article. It is important that they be understood and complied with to insure acceptance and expedite delivery.

Regional OSP offices will determine eligibility. Discounts run 45 per cent off list, minimum order $500, payment cash or 30 days

SURPLUS PARTS

(Continued from page 39)

will be placed; no prior declaration, inspection or inventory records will be necessary. When an order has actually been filled and shipped by the Army, shipping documents will in effect be handled through records as a declaration of surplus and a "wash" sale. Invoices will be prepared as will be later explained in its proper sequence.

Qualification Requirements

THE fleet operator will purchase from the Government as he now does from his usual source of supply, except that he must first establish himself with the Office of Surplus Property by submitting his qualifications as a fleet operator to the regional office in the area in which he resides. He must give such information as his license number, the type of his business, and other information which is specified for inclusion on a qualification blank which may be obtained from the regional office of the Department of Commerce, Office of Surplus Property. He also must submit evidence of financial stability, from which he may obtain authorization for 30 days' credit.

Sales Conditions

ALL sales of automotive parts, equipment and accessories are subject to the terms of Department of Commerce Sales Conditions No. 1, dated July 9, 1945, as modified for the sale of automotive parts and all other terms and conditions as advertised.

Sales may be made on a credit basis subject to the approval of the Office of Surplus Property; when credit is extended, payment must be made in full within 30 days after the date of the invoice for the merchandise. Sales for cash also will be accepted.

All prices are quoted on the basis of discounts established by the Office of Surplus Property to be deducted from current manufacturers' list price. Different discounts will be permitted for different levels of trade; viz., distributors or wholesalers, dealers, service garages and fleet operators, as certified by the buyer in the qualification and credit Form No. OSP76T, reproduced in Fig. 1 and 1A.

Selling prices are fixed for levels of trade, and the base price is the current manufacturers' list price as shown in the manufacturers' catalogs. Discount to fleet operators will be 45 per cent from the list price.

All merchandise will meet U. S. Army issue specifications. It is expected that the great bulk of merchandise will be new; some may be shelf-worn; the merchandise may or may not be wrapped or treated for export; a few assemblies may be reconditioned but will have passed Army inspection standards.

Parts must be ordered by vehicle manufacturers' part number or part number taken from Army Ordnance supply catalogs. Orders specifying a particular parts manufacturer will not be accepted, the Office of Surplus Property reserving the right to supply interchangeable parts.

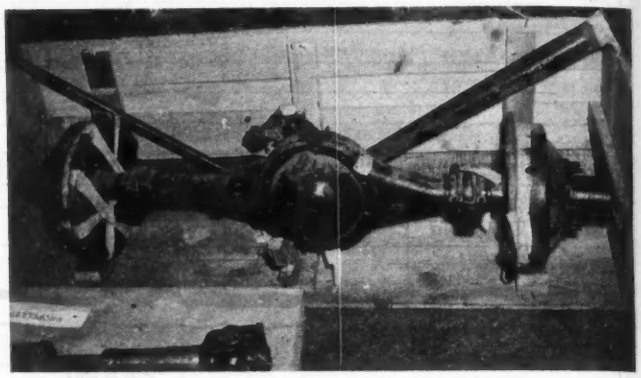


Fig. 4, top. Such critical parts as bearings are available for nearly any make of truck. Fig 5, above. Large parts may or may not be wrapped. A few assemblies may be reconditioned but will have passed Army standards

Minimum Order Is "Single Package"

THE minimum order of individual items that will be accepted by the Office of Surplus Property is a single package. When quantities are specified that may be less than a single package, the buyer will state the maximum quantity he is willing to accept; if not stated, the minimum package lot will be shipped.

As quantities in package vary, and cannot be known in advance, orders cannot be filled exactly to specified amounts as ordered by the purchaser. Therefore, the buyer agrees to accept orders when they are filled within 10 per cent plus or minus of the original quantity requested.

No order will be accepted for a total net value of less than $500, after discount deductions.

30-Day Adjustments

SALES are subject to such adjustment, upon the request of the purchaser, as the Secretary of Commerce, or his designated representative may, in his discretion, determine to be equitable under the circumstances. Requests for any such adjustment will be considered only if filed with 30 days after the receipt of merchandise in the manner prescribed, by applicable regulations of the Office of Surplus Property, Department of Commerce, copies of which may be obtained from that office, Washington 25,

(TURN TO PAGE 142, PLEASE)

HEARD BY THE GREASEMAN

by PETE R. OLEUM

One driver came in reporting he was following a diesel up hill enveloped in a cloud of smoke, and he thought it was on fire. He stopped the driver on top and told him. The diesel driver said one jet was fouled and then added proudly, "You ought to see me when two are fouled."

o o o

Lippy said he had gas in his cab once so bad he floated out and felt as though he didn't weigh a pound. For two days, he said he was afraid to take a step for fear he'd float away.

o o o

NAMES ON TRAILERS:

OBISPO MADRIGAL

SNOWSHOES

HORSESHOE ED

UMBRIAGO, MAYOR OF CHICAGO

o o o

The new night yardman, who is a biology student, walked past the dock with Shop Boss.

Yardman: "Those loads are lined up nice, aren't they?"

Boss: "Yes, who did it?"

Yardman: "I did."

o o o

Eddie the Wolf licked his lips as he listened to the summer night Yardman, who studies biology, tell of mating experiments with guinea pigs, who spend all their time in reproductive work.

o o o

Rosie, who keeps the time sheets, asked Eddie what he did on a certain night. "I was out with a little White until 4 a.m.," Eddie said, "and I found out how to remove the spacer rim on a WA 22. You need a screw driver, a pry bar and a quart of whiskey."

o o o

Eddie, making friends with the Manager's Doberman Pinscher: "See, I can make friends with any dog."

Rosie: "Why not? They know you're part wolf."

And of course Lippy's first work sheet after the atomic bomb read: "This tractor needs an atomic pill."

o o o

The Boys were impressed watching a new diesel on the railroad picking up fast with a long load of freight cars. "He's just gone into overdrive," said one. "Did he clash when shifting gears," cracked another. "No," "Then it must be syncro-mesh."

o o o

Watching a flock of Helicopters beating through the air someone said, "That's the family car of the plane business."

DESCRIBING A GOOD DRIVER: "ALL HE NEEDS IS A GOOD SEAT AND A STEERING WHEEL."

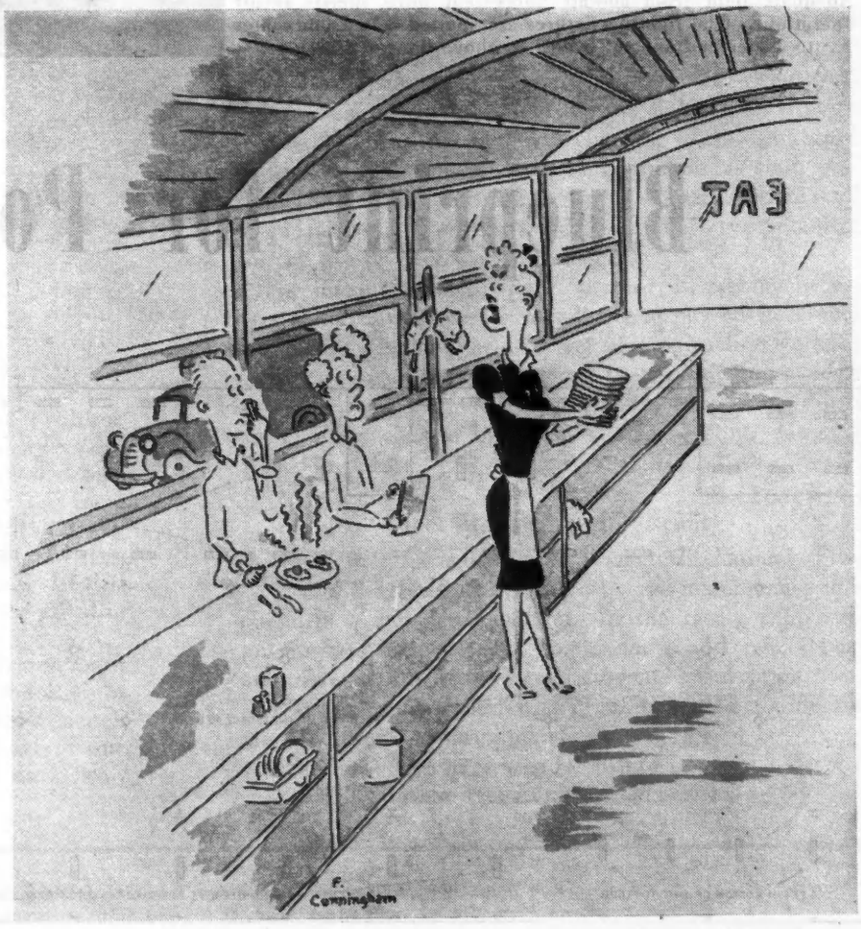
o o o

"Try your steering wheel," ordered Pete the Helper to a driver with front-end touble. Then, "Stop for God's sake, she's quivering!"

o o o

Red (Hell on Wheels) had governor trouble. "I'd be going along at 70," he said, "and all of a sudden I'd lose everything and have to start all over again. And Boss, set the new one for 65 m.p.h.—uphill."

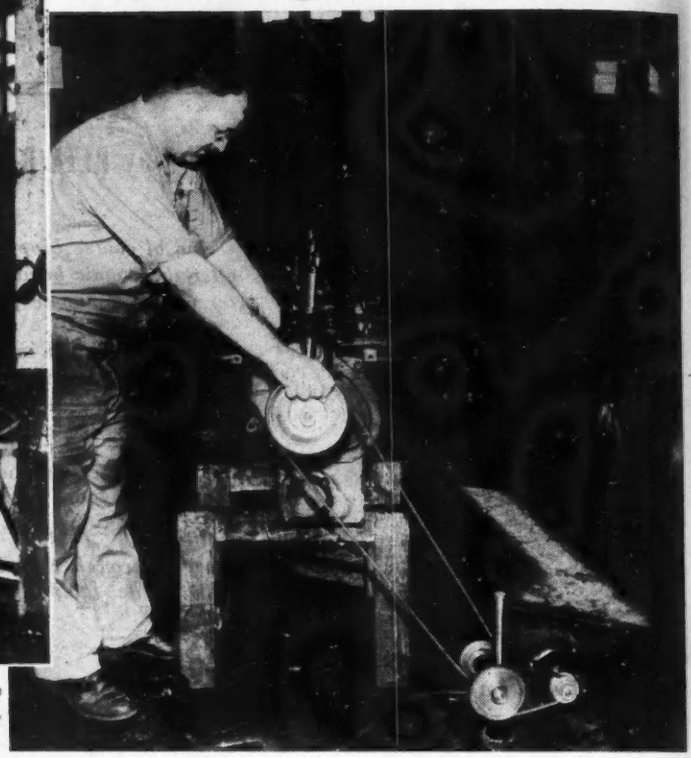
(TURN TO PAGE 148, PLEASE)



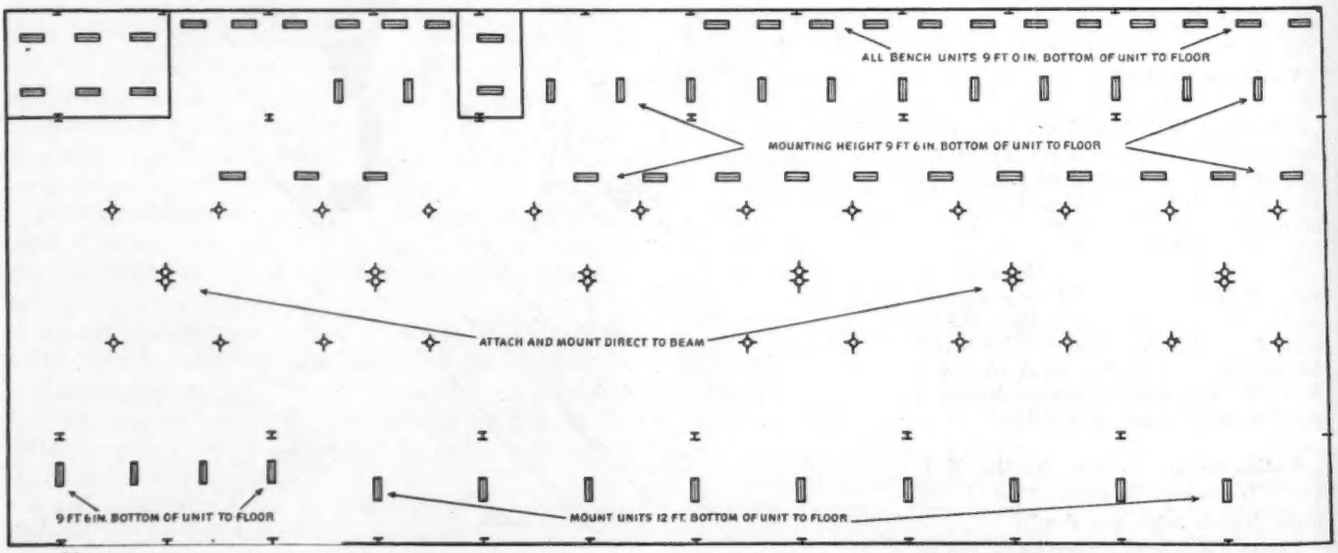
"Listen mister, layin' the table is as far as I go in that direction!"

Adequate light from 80-watt fluorescent units speeds repair operations. The lighting fixtures are spotted 8 ft. from center to center and are not over 9 ft. above floor at benches

Proper lighting intensity increases the volume of work and makes for greater precision. Note mechanic's concentration. Setting of the tool permits a tolerance of only .001 in.



Blueprint for Postwar Shop



LIGHTING PLAN

Location of receptacles for plugging in arc welding equipment at 40 ft. intervals avoids time loss in hunting outlets. The use of shorter leads reduces installation costs

Electrification

Ample light and sufficient power tool outlets will pay dividends. Southern fleet's re-electrification gains 65 per cent more work, saves $200 monthly on electric bill

by HARRIE H. BIERMAN

ADEQUATE shop lighting and ample facilities for the use of electrically-powered shop equipment would seem to rate a place high up on the truck fleet operator's postwar planning agenda—unless, of course, he has provided for these items, already.

War Industry's collective experience has demonstrated that proper illumination of work areas and satisfactory production volume are definitely bracketed. However, it is not necessary to go outside the field of fleet maintenance to show that better mechanical work—and more of it—accrue to the operator who supplies his shop personnel with good and ample artificial light, where and when needed, as well as sufficient, convenient outlets for the use of electrical equipment.

The money invested by an operator, in making necessary electrical changes, is very likely to pay off in double dividends. Not only will he get higher quality work in greater volume—hence, lowered fleet maintenance costs—but he stands a good chance, also, of shaving down his monthly electric bill by a sizable amount. Here is a case in point:

Fleet Modernizes for Profit

A FEW months ago, Miami Transit Co., Miami, Fla., gave the electrical system in its maintenance department a complete overhaul. As the result, shop output jumped 65 per cent. To this gain, add a $200-per-month reduction in the firm's current-consumption cost.

MTC operates a fleet of 275 units of three different manufactures. Approximately 70 per cent of these vehicles have been in service for five to 12 years. Despite

(TURN TO NEXT PAGE, PLEASE)

LIGHT WHERE IT IS NEEDED

"In working out an illuminating problem such as this, lighting experts consider not only the amount of light to be produced but, also, the means of putting it where it is most needed. The quantity of light which actually *reaches* a given surface is all that matters, and it is measured in "foot candles." In this instance, the objective was an over-all illumination of 25 foot-candle units.

"Not only did this lighting arrangement take care of areas where the need for light was greatest—such as a 190-ft. work bench which extends along the greater part of one side wall—but corners, previously dark, now are well illuminated."

Left. Plan of lighting installation for the Central shop, Miami Transit Co. Fluorescent lighting is used in all units except those in the repair pits. Lights hang 9 ft. 6 in. from floor to give best illumination for workbench. Most units are 100-watt output

Shop Electrification

(Continued from page 43)

this fact, the fleet's daily mileage per unit averages about 250 miles.

Under the company's long-established PM setup, that amount of travel brings each vehicle into the shop for a 2000-mile inspection pretty close to once every eight days. The 10,000-mile "go-over" is due every 40 da .

To maintain its fleet, the company operates, in different parts of the city, two large shops. The Northside shop, approximately 90 by 250 ft., is a concrete-and-steel building of fairly recent construction. The Central garage is an older structure, 100 by 300 ft. Both shops operate around the clock, seven days per week.

PM inspectors, routine repairs and the extra labor involved in keeping overaged vehicles in usable condition piled up work until the "backlog" threatened to become an operating bottleneck. The obvious remedies—more men or additional shop equipment—would not, in this case, solve the problem. The ceiling on available manpower had been reached. And the maintenance department already was plentifully supplied with labor-saving devices of all types.

One major trouble-source, Charles Tepley, MTC's maintenance superintendent, believed, was the inadequacy of shop lighting facilities. Installed just before the war, the electrical system, at the Northside garage, provided for only limited expansion of shop volume and personnel. Consequently, the need for artifical illumination—especially, for night work—had outgrown the supply. At the Central garage, the lighting was worse.

As the result of a conference on the subject of better lighting between Tepley and R. R. Freeman, MTC's vice president and general manager, the latter ordered a lighting survey, calling in for the purpose an electrical contractor who has specialized, to a large degree, on this kind of work. To add authority to his findings, the contractor sought the cooperation of the local utility. This company loaned him the services of an illumination engineer. Many light-and-power companies, by the way, offer such service on a gratis basis.

Starting at the Northside garage, the contractor and the utility's engineer checked the shop's lighting, using a light meter. This electronic instrument measures illumination with the same accuracy that a micrometer determines the thickness of a piston pin.

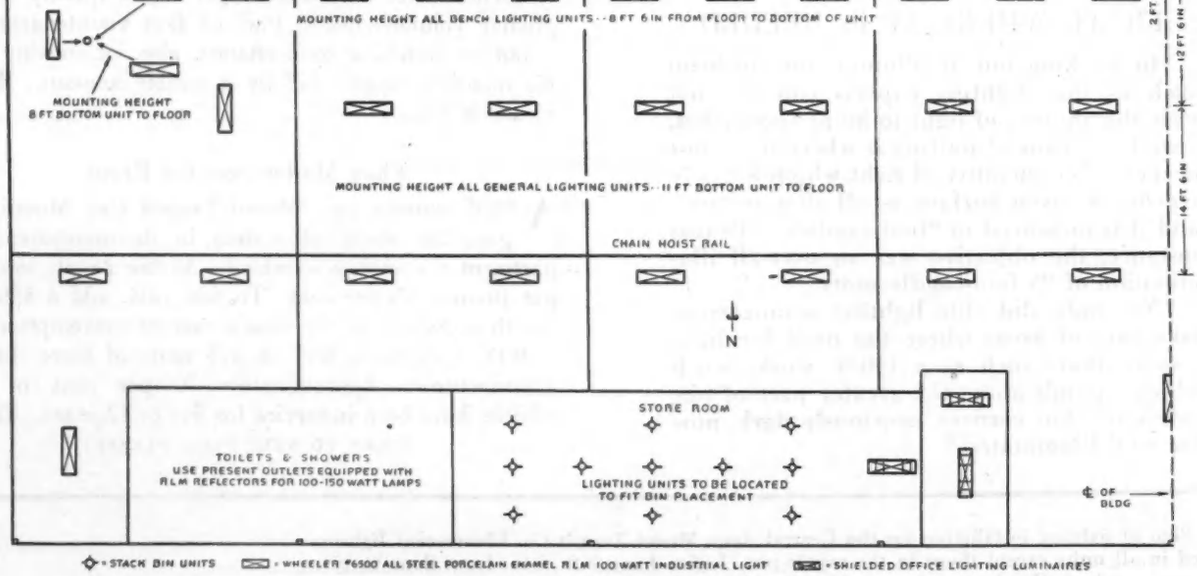
Previous Lighting Unsatisfactory

THE survey showed that shop lighting was "spotty." Some work areas had fairly good illumination, while others, equally important, had practically none at all. The general lighting system in use consisted of widely spaced, 500-watt lamps of clear glass. Unequipped with reflectors, they were hung high up, near the ceiling. Only space directly under them got the full benefit of their light output. For the most part, under-the-hood repairs and adjustments had to be made by the aid of drop lamps.

The two electrical specialists made a diagram, showing the light distribution throughout the shop. They made up a second diagram plotting their recommendations for improving the lighting, together with data covering the anticipated results.

In working out an illumination problem such as this, lighting experts consider not only the amount of light to be produced but, also, the means for putting it where it is most needed. The quantity of light which actually *reaches* a given surface is all that matters, and it is measured in "foot candles." In this instance, the ob-

Below. Lighting plan for the west half of shop at Northside. Fluorescent lights are spaced 8½ ft. from floor to benches; general lighting units are 11 ft. from floor



LIGHTING PLAN - WEST HALF BLDG.

jective was an over-all illumination of 25-foot candle units. As a basis for comparison, an averagely well-lighted street would meter up about 1 foot-candle.

Fluorescent Lamps Installed

RECEIVING a "go ahead" on his program, the contractor installed reflector-type fixtures, mounting two 40-watt fluorescent lamps, each, and spotted them 8 ft. apart, from center to center. The light patterns from adjoining fixtures, spaced as closely as this, overlapped slightly, eliminating all marginal shadows. And, since illuminating intensity decreases with the distance from source to lighted surface, the lamps were located on 8 ft., 9 in. above the floor.

Not only did this lighting arrangement take care of areas where the need for light was greatest—such as a 190-ft. work bench which extends along the greater part of one side wall—but corners, previously dark, now are well illuminated.

Fluorescents were chosen because: (1) Compared with Mazda lamps they consume only about 1/3 the amount of current for any given wattage, (2) they generate less heat, (3) the "day light" type fluorescent approximates more nearly than any other kind of artificial illumination the visual qualities of natural light.

There was, however, one exception to the lighting efficiency provided by the fluorescent installation. Chassis lubrication is handled by means of pit-installed equipment. At the Northside shop, there are nine of these pits. Lighting for this work was supplied by ordinary drop lamps.

Authorities in some cities regard work pits in automotive shops as a fire hazard, and prohibit their use. To minimize the hazard and to provide better lighting, the contractor installed at either end of each pit at Northside a wall-mounted, 200-watt lamp of special, vapor-proof construction. And, for the unprotected type of plug-in outlet, formerly used as a current source for portable power tools, he substituted special vapor-proof plug-in receptacles.

Except on rare occasions, the use of drop light at Northside, was eliminated. And their elimination chalked up two worthwhile gains: For one thing, the employment of drop lamps is a considerable time-waster. For another, the cost of lamp and cord replacements is a sizable item in the total of shop overhead. In fleet maintenance shops the casualty rate on this type of equipment often runs high due to the "loss," as well as the lamp breakage and cord wear and tear.

The contractor's plan for increasing work volume went far beyond the betterment of interior lighting. The blueprint included an exterior lighting setup and an improvement in the shop's facilities for providing powering current.

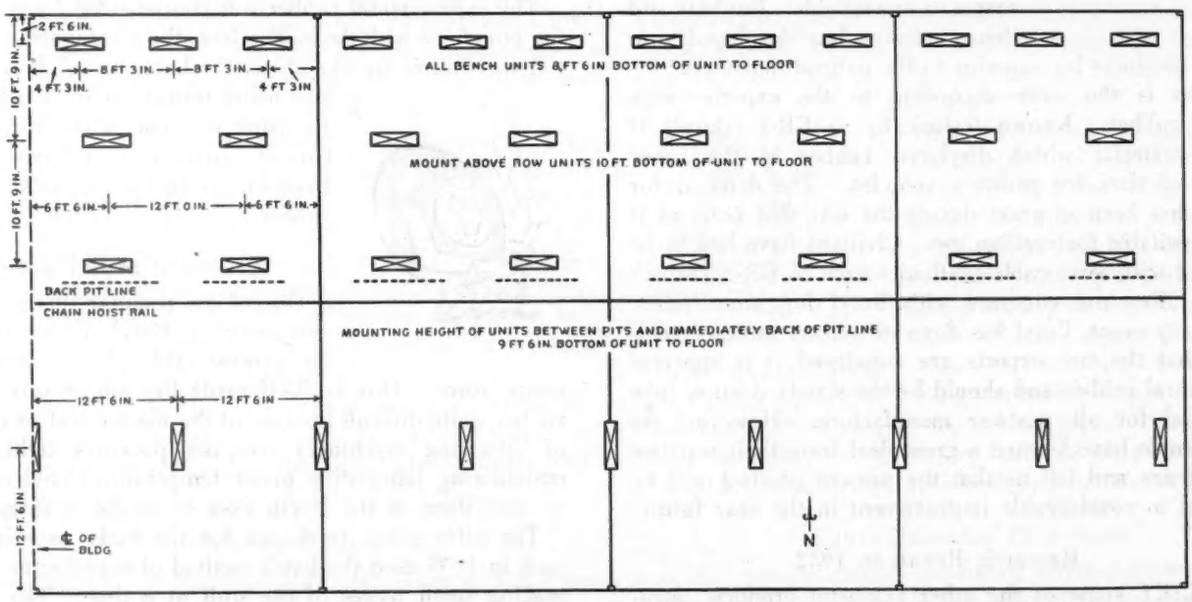
Outdoor Service Area Illuminated

ADJACENT to the building, at this location, is a 5-acre, fenced-in tract of land. Part of this is used as a parking space. And part is employed for such maintenance detail as washing, polishing and tire-changing. This work area had no lighting system of its own. Therefore, operations at night, when much of this

(TURN TO PAGE 154, PLEASE)

Above. Vapor-proof, 200-watt lamps installed in the pit make possible more accurate and faster work. Also eliminate the need for drop cords and step up the safety factor

Below. Lighting plan for the east half of the same shop. Units are placed at varied intervals as indicated for best illumination. They vary in height from 8½ to 10 ft.



LIGHTING PLAN - EAST HALF BLDG.

TIRE EXPERTS SAY . . .

" . . . It is superior to natural rubber and should be the standard inner tube material for all postwar manufacture."

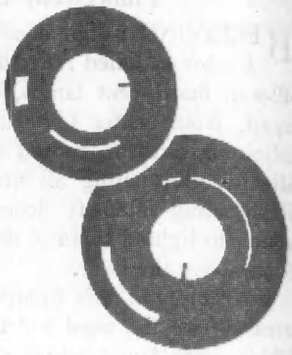
"Tubes made of Butyl are as durable as natural rubber, if not more so. They hold air ten times longer."

"Tear resistance is as good as natural rubber and probably better . . . It is said to compare favorably from the abrasion standpoint."

"Butyl is as good as natural rubber and if anything superior to it from the standpoint of aging."

"It is claimed, too, that Butyl can take more punishment. For instance, in one test a Butyl tube after running 35,000 miles, was punctured with a ten-penny nail. Despite this, enough air remained in the tube to run several miles before bringing the car to a stop."

"Whereas natural rubber tubes are ruined by too much heat, Butyl can take it and continue to operate without failure. Buckles and folds will not affect the serviceability of a Butyl tube . . . as they will rubber . . . so you can score another point for Butyl."



BUTYL Inner Tubes

OURS is a scientific age. We are constantly replacing conventional materials with synthetic products. Some of the "substitutions," particularly those made during the war, are merely stop-gaps: they are used because the desirable product is scarce or unavailable. But here and there industry has developed synthetic products far superior to the natural materials.

Such is the case—according to the experts—with Butyl rubber. Known technically as GR-I (Butyl) it is a material which displaced rubber in the inner tubes of tires for military vehicles. The demand for Butyl has been so great during the war that none of it was available for civilian use. Civilians have had to be content with serviceable synthetics such as GR-S (Buna) which does not compare with Butyl for inner tubes.

In any event, Butyl has done so well on military vehicles that the tire experts are convinced it is superior to natural rubber and should be the standard inner tube material for all postwar manufacture. However, the tire people have learned a great deal from their wartime experience and tell us that the present product will be subject to considerable improvement in the near future.

Research Began in 1932

UNLIKE some of the other synthetic products introduced in recent years, Butyl is exclusively an American development. It grew out of work done by chemists of the Standard Oil Co. of New Jersey in their search—as far back as 1932—for additives or blending agents for lubricating oil. The basic material comes almost entirely from one of the refinery gases that go into the making of aviation gasoline. Since this gas is known as "isobutylene," the chemists decided to call the end product—Butyl.

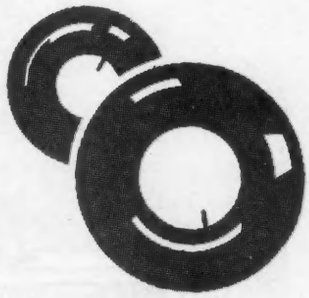
The experimental rubber was compounded by combining butadiene with the isobutylene, the combination being polymerization by the chemist. Later research showed that better results would be obtained by using isoprene, a chemical relative of butadiene. The new combination produces a much better rubber.

Processed at Sub-Zero

One of the peculiar things about compounding Butyl rubber is that the process takes place at sub-zero temperature. This in itself made the job of producing rubber quite difficult because of the mechanical problems of operating machinery, keeping packings tight, and maintaining lubrication under temperatures colder than we find them at the North Pole or in the stratosphere.

The pilot plant developed for the early experiments back in 1939 used the batch method of manufacture, i.e., making small pieces of the stuff at a time. The basic process takes the ingredients—isobutylene, isoprene, the

Tubes made of Butyl hold air ten times longer than natural rubber, withstand more heat, resist deterioration, chafing, tearing. Elasticity is satisfactory



by JOSEPH GESCHELIN
Commercial Car Journal, Detroit Technical Editor

Excel Rubber in Performance

fluid which dissolves them, and the catalyst which speeds the reaction—in measured amounts and mixes them in a suitable vessel. This is done while temperature is held to the required sub-zero limits. When the chemical blending has been completed, we have Butyl rubber. The machinery is stopped, the raw rubber is removed and is ready for processing into rubber sheeting suitable for fabrication into tubes.

In 1941, Standard Oil began the construction of its first full-scale Butyl rubber plant—with its own funds—in Baton Rouge for its Louisiana division. Although Butyl did not attain full commercial production until March, 1943, in March, 1942, Standard Oil, realizing the possibilities of the process, agreed to license anyone interested in the production of Butyl rubber during the war without royalty, and after the war at reasonable royalties to be fixed by the government.

Butyl rubber is neither a cure-all nor a substitute for natural rubber for all purposes. Fact of the matter is, it is limited to certain specific applications at this writing. The inner tube is one of the major items.

Hold Air Longer

ACCORDING to Standard Oil, tubes made of Butyl are as durable as natural rubber, if not more so. They hold air ten times longer. That implies that they need inflating only four or five times a year. This is not so important as the fact that by holding air better, the Butyl tube increases the life of the tire and helps to improve fuel consumption by preventing tire pressure from dropping below a safe level. It is claimed, too, that the Butyl tube can take considerably more punishment. For instance, in one test a Butyl tube after running 35,000 miles was punctured with a ten-penny nail. Despite this, enough air remained in the tube to permit the driver to run several miles before bringing the car to a stop.

Of course, we don't have to tell a fleetman that no new development is perfect. The best has some limitations. The question is, what are the "bugs" in Butyl, if any? For the answer, we sought the advice of the men who make the tires.

Tire experts agree that Butyl tubes hold air longer. The exact measure of its ability to do this varies but it ranges anywhere from five times to ten times as long as for rubber tubes. That assures the maintenance of correct tire pressure for longer periods of time, cuts down the frequency of tire inflation.

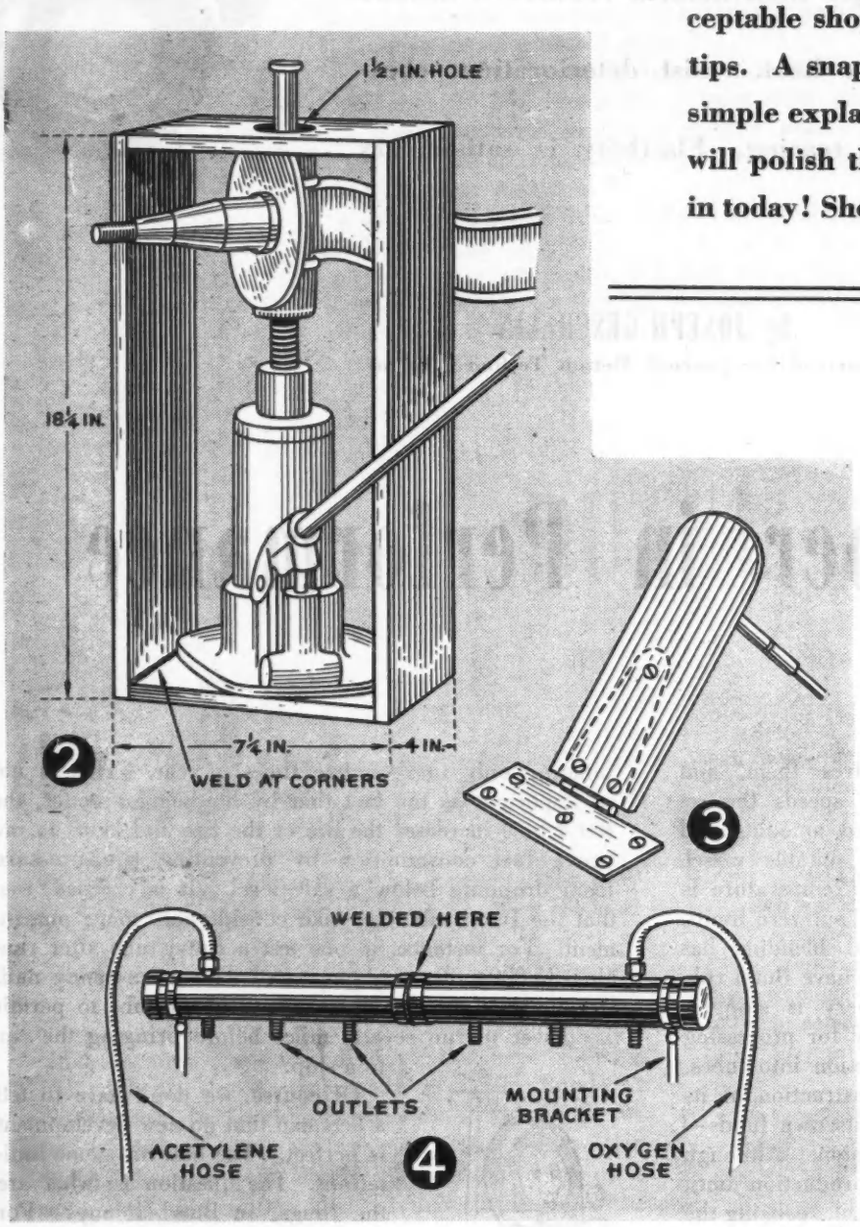
Other Superior Properties

THE tensile strength of Butyl, when compounded for tubes, is said to be less than that of natural rubber. Yet

(TURN TO PAGE 158, PLEASE)

SHOP & SALVAGE HINTS

Commercial Car Journal will pay $5 for acceptable shop hints and $5 for parts salvage tips. A snapshot or a rough drawing with a simple explanation is all that is needed. CCJ will polish them for publication. Send one in today! Shown on next page is a typical con-



1. Sealed Beam Shop Light

by George Wilson
Good Humor Corp., New Haven, Conn.

Good trouble lights can be made from sealed beam units with one filament burned out. Connections are simple—one wire to good terminal of good filament and another wire to the ground terminal of the unit.

To make the shop light, I soldered a wire coat hanger to the back of a metal-backed unit after bending it to make a stand as shown in the drawing. I taped the wire hanger to avoid grounding the current. The light can be hung on the radiator rods or set on the ground or on a stand.

2. Spindle Pin Remover

by R. M. Shelton
Safety Convoy Co., Dallas, Tex.

A handy jig for removing tight front spindle pins can be made by making a cage of sheet iron, using a hydraulic jack to push the pin out. This cage was made for Ford 1½-ton trucks. Dimensions will vary with other makes.

The cage was made of ½-in. metal, 4 in. wide. The uprights are 18¼ in. high, and the cross pieces are 7¼ in. These pieces are welded at the four corners into a rectangular box. A 1½-in. hole is drilled in the top piece for the pin to slide through. The swivel from the top of the jack is removed so that the screw will contact the end of the pin.

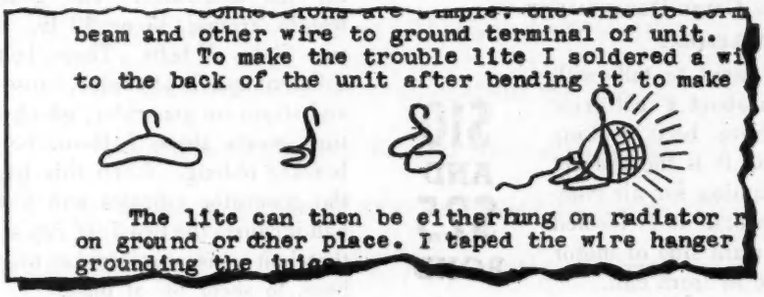
No pins are too tight for this jig. It's really a time-saver in our shop. Any welder can make the tool, and an old jack will work fine.

3. Salvaged Gas Pedal

by S/Sgt. James Talerico
APO 230
Courtesy, Army Motors

Many of our gas pedals got so loose from wear that they kept falling off the accelerator rod at one time or another. So we removed the rubber attachment on the lower (heel) end of the pedal and also the part on the floorboard. Then we bolted a regular door hinge to the pedal and the floorboard. It's even better than the standard hook-up.

tribution — just a rough sketch and a brief statement of the problem and its solution. See how it looks in Fig. 1. This brought Geo. Wilson $5. There are other $5 bills waiting for your contribution. Don't underestimate your ideas. Let the editor judge.



4. Welding Tank Manifold

by G. E. Upperman
Continental Baking Co.,
Wheeling, W. Va.

With a home-made manifold on our welding torch truck, we have made it possible for two men to weld at the same time and use the cutting torch without hooking up any additional equipment. This is a time-saver.

Two pieces of 1-in. brass pipe are capped at both ends and welded together as shown in the drawing. Holes are drilled and tapped in the top of the pipe for the inlet hoses from the acetylene tank and the oxygen tank. As many outlets can be made as required. In our case three acetylene and three oxygen outlets are used for two small welding torches and one cutting torch. These outlets are made in the bottom of the brass tube manifold.

This manifold has been examined by various welders and welding equipment men, and all are pleased with the operation.

5. Light Wire Conduit

by John M. Kavanagh
Hageman Farms Corp.,
Ridgewood, N. J.

Due to the type of work our trucks are called upon to do, the dome light wiring insulation is wet continually, and its deterioration is a problem. We were plagued with an excessive amount of wiring replacement inside the plywood and metal roof covering.

To keep wires from rotting and to expedite replacements when they were needed, we have installed copper tubing the length of the body roof and down the side. We run the light wires through this conduit. Salvaged lines are used for this purpose, and the corners rounded so that new wires can be installed in 15 minutes if the need ever arises with this modification. The job originally took up to 1½ hours.

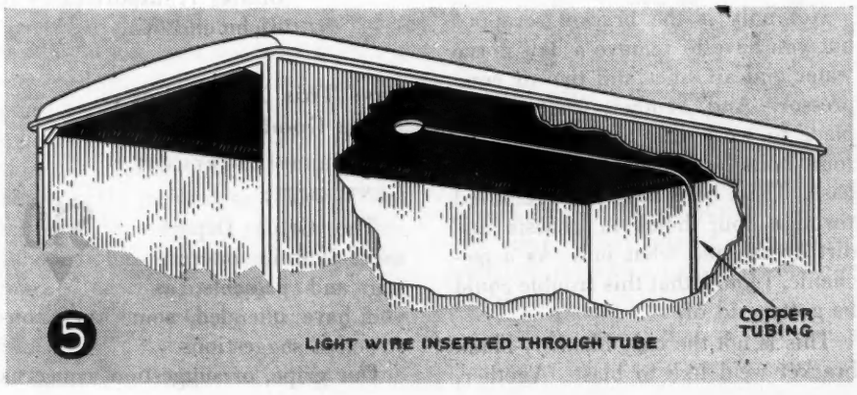
Many fleet operators who have experienced this sort of trouble will appreciate this tip, I am sure.

6. Ford Switch Repair

by Budd Shaulis
Continental Baking Co.,
Norristown, Pa.

The contact points on the Ford double pole ignition switch get worn on the movable side of the post. Usage causes a deep groove in the edge of the brass post contact and in the bakelite. Since the other post of the switch only supports the contact bar, it gets little wear.

We turn the switch upside down. This puts the good post on the left side for the contact bar to rub against and makes a repair that will last as long as the original switch.



THE GRIPE DEPARTMENT

COMMERCIAL CAR JOURNAL WILL PAY

This month Service Manual Gripes stands by as Mr. J. Willard Lord of the Atlantic Refining Co. and Chairman, SAE Subcommittee of Standard Service Instruction, discusses his committee's findings on existing service instruction manuals and recommendations for more practical service instruction data. The article will be found on Page 62.

Blankety-Blank Brackets

THE GRIPE DEPARTMENT
GENTLEMEN:

$10 AND $25 BOND

I want to talk with you about a real gripe I have been looking into. It is the bracket mounting for air compressors. It is located on right side of motor base at front end.

Now this bracket has a shaft with sprocket wheel on one end and pulley on front end. This shaft runs on a double roller bearing which is always giving trouble. This bearing was not made to be greased, according to the engineers that designed it, as they have made no provision for greasing it.

Now this shaft turns up at a speed and strain no roller bearing could stand without running hot and burning up the grease in it. When this happens the cup of bearing or sleeve turns in cast iron bracket. Therefore making bearing loose in bracket, so bracket is taken out and thrown in scrap pile and the cost is very high. The bracket costs plenty and a mechanic's time about five hours hard work.

Not only is the bracket scrapped but you have to remove a half dozen water and air lines and the air compressor. And, brother, what a close place to work in. This bracket has four bolts which hold it to motor base. These bolts have to be removed through four holes in chassis and dirt grease and what not. As a mechanic, I know that this trouble could be gotten rid of.

This is not the only blankety-blank bracket we'd like to blast. Another, for example, is the bracket support for the generator. The generator weighs around 35 or 40 lb. It has two 7/8-in. V-belts. These belts, at different speeds of engine, cause jerks and strain on generator, which in return wears these 7/16-in. holes in bracket oblong. When this happens the generator vibrates and jerks so bad it causes the two 7/16 cap screws, that bolt generator bracket to motor base, to sheer off at base.

When this happens the generator goes wild—nothing to hold it. Of course, the battery goes down, lights go dim and spark for plugs so weak, motor power drops, fan stops. The driver has to pull off road, stop and phone for a mechanic.

By the time a mechanic gets there and repairs the breakdown, about five or six hours have been lost. Nine times out of ten the mechanic has to drill out the two broken bolt ends in the base. And, brother, it's no cinch to get to, for it is located at the base of the block, left side at front, with about 6-in. space to work in.

The engineers could have arranged for four bolts just as easy as two, which would get rid of the trouble.

G. W. LAYNE,
Mechanic,
Brooks Transportation Co.
Richmond, Va.

Says This 3-to-1 Shot Not a Good Gamble

THE GRIPE DEPARTMENT,
GENTLEMEN:

$10

The Gripe Department is quite interesting and presents, as you have intended, some very constructive suggestions.

Our gripe, or suggestion, concerns wheels used on trucks, tractors and trailers. Each manufacturer has a design he favors or, for other reasons, uses.

Think of the tremendous saving in time and money tied up in spare wheels and tires, that could be effected, if it were possible to have a wheel that would fit anywhere on the tractor or trailer and could be interchanged from one to another, assuming the tire sizes were the same.

For instance, a few tires mounted on a standardized wheel at convenient times, available where needed—particularly when emergencies arise—would save hours of delay. Delays cost money. The stock pile of tires and wheels to a trucker would be greatly reduced, the size he had mounted would fit where the need arose. This would release money to improve his service.

Think of the driver on the road. His tractor trailer unit has one to three different types of wheels, a single spare. There's a one to three chance that the wheel his spare is mounted on, fits his trouble without having to remount. If not, more delay, more time wasted. In a business such as ours, dealing with perishables, delays are serious and can cause spoilage.

This may mean a terrific job of selling. A manufacturer may be hesitant to give up a type wheel he has used for years.

But the trucking industry, as a whole, with a standardized wheel used on trucks and trailers, would save countless dollars, and improve the service of every trucker.

C. F. JOHNSON,
Supervisor,
Neuhoff Packing Co.
Nashville, Tenn.

PAY **$10** FOR EVERY GRIPE PUBLISHED AND each month one of the Gripes will receive an extra award of a **$25** WAR BOND

For Mechanics, Foremen, Superintendents, Supervisors,—in fact all connected with the maintenance and operation of fleets, who want designers to give more thought to making post-war trucks easier to maintain and repair and less costly to run

"The Gripe Department" invites fleet mechanics and all others connected with fleet maintenance and fleet operation to send in their gripes. For every griping letter published in this department, COMMERCIAL CAR JOURNAL will pay $10. In addition, the best letter each month will receive a $25 War Bond. Choice of letters for publication and for the War Bond will be made by the Editors of COMMERCIAL CAR JOURNAL. Choice will be determined by the content and not by style of writing or apparance.

Address your letter to THE GRIPE DEPARTMENT, COMMERCIAL CAR JOURNAL, PHILADELPHIA 39, PA.

Marine Gets Mad

THE GRIPE DEPARTMENT,
GENTLEMEN:

$10

Why can't designers work in the shop as a mechanic? I know St. Peter won't have a mechanic up there with him. Of course, maybe the designers are doing it just for a laugh. It's very funny to see a man astride a motor with his neck between the fan blades trying to remove a lower hose connection from the radiator. It may come off with a knife, but wait till you put on the nice new hose.

I must leave now as I have a stationary gasoline engine to drop the pan on. Would you believe it, the rear of the pan bolts from the inside of the generator housing? The engine has to be removed from the generator before the pan can come off. The guy that drew the plans for that should be lynched with a fan belt.

SGT. NOBLE L. MARTIN,
Automotive & Repair Co.,
5th M.T.Br., 5th Marine Div.,
c/o F.P.O., San Francisco, Cal.

Coils and Condensers Should Carry Capacity Data

THE GRIPE DEPARTMENT,
GENTLEMEN:

$10

I have been quite a fan of your magazine for some time, as I like to know what other nut busters think and what the older boys are doing. Among your many useful articles I especially like The Gripe Department, as most of the steam I inhale from there only makes me see a little redder.

Now, it so happens, it is the little things that gripe me so d--- much. So here goes.

How many times have you had to stick on the front fender of a car or truck by gripping between your knees and chest with your head along side a hot manifold (that's cool compared to your thoughts), and, while in this unnatural position, try to loosen or tighten a measly little hose clamp that had the screw driver slot gouged out?

Another thing that always gets me is why when, you have to install a new coil on a car, you have to just guess at what capacity the condenser must have across your points. I think that all coils and condensers should be properly marked so that one can tell what the capacity of a condenser is, or should be. All coils should be marked so that one will know what condenser capacity should be to give life to the points.

Personally I am like the rest of the trade. I sincerely believe that some of these engineers are really apprentice idiots.

B. J. NATIONS,
Long Beach, Cal.

Visors to Protect Vision

THE GRIPE DEPARTMENT,
GENTLEMEN:

$10

Here is something that every truckman should gripe about. Why aren't there any sun visors on trucks? This is the $64 question that I would like someone to answer. I have been driving different makes of trucks and as yet have not come across any that was equipped with a sun visor. Many times I have almost suffered injurious consequences due to this fact.

Another thing that would be a

(TURN TO NEXT PAGE, PLEASE)

THE GRIPE DEPARTMENT

(Continued from page 51)

great improvement on trucks would be to have a better spare tire carrier —one that can be installed and removed with ease.

ANTHONY SZAMBECKI
Secaucus, N. J.

Better Truck Oil Gages —Maybe Green Light, Too

THE GRIPE DEPARTMENT,
GENTLEMEN:

$10

In my 20 years of fleet maintenance experience, my pet gripe has recently come up again.

Why do engineers insist on mounting an oil gage on the instrument panel, when there are not 10 drivers in 1000 that look at it or check it? Why don't they put an electric gage there, if it is a must? I refer to the type of gage used by one of our manufacturers of small cars. That would eliminate the chaffing or breaking of flexible or copper tubing.

In my time of service, I have had it happen four times, and the driver ran the truck until the motor knocked or locked fast.

I offer a simple arrangement that I believe might be practical. At the motor block, use an ordinary hydraulic stop light switch, and have that connected to a fair size green light on the instrument panel. When there is a pressure on the diaphragm, the green light will always be on while the system is working properly. The light will fail in case of inside bad connections, bad main or oil pump trouble.

HENRY J. FERNOT,
Fleet Mechanic,
Tide Water
Associated Oil Co.
Passaic, N. J.

Serial Number Accessibility

THE GRIPE DEPARTMENT,
GENTLEMEN:

$10

Is there a law against manufacturers placing the serial or motor number of a car where it is accessible to both sight and touch?

Quite frequently when units are brought into our state to be licensed, we find that the previous state of license has dropped a letter or numeral from the serial number on the title papers. Our own license bureau requires proof as to the full and correct serial number before it will issue us a license. Usually it will accept a pencil stencil of the number as adequate proof.

However, we find that it takes a cross between a "Houdini" and a modern escape artist for the contortions necessary to make such a stencil, due to the location of the serial or motor number.

Usual practice requires one to lean far over the motor with a strong flashlight and he finally locates the bloody number deep in the innards of the beast. Of course, he can only see it, he can't possibly reach it. Then he crawls under the car and after much groping he finds that he can feel the stenciled number somewhere on the block, but he can't see it.

Praise be to those manufacturers that do place it where it can be readily found. As for the balance, may they some day have to stencil off a copy of their misplaced ways.

R. L. TRAPP,
Automotive Div.,
Shell Oil Co., Inc.
Tulsa, Okla.

Hood Headaches

THE GRIPE DEPARTMENT,
GENTLEMEN:

$10

The hood on today's truck could stand an improvement. They look good streamlined for a while, but after a few months and several accidents you can't get one to look or operate like it should.

The center or hinge part is not heavy enough, and the hood clamp or hold downs are always broken or lost and the hood is riding out on the radiator. The hook fasteners or lock don't work when new and you can't expect them to work after the hood has been raised a few times by the man checking the oil.

The best part of the hood are the ventilators in the sides of the hood. They are shot welded to the inside of the hood sides. So when they fall off, they get in the way of the fan blades and you know what that means—a new radiator core, fan blades, etc. Usually the truck is just 100 miles from where repairs can be made and has on a rush load of freight.

Can we have heavy and better hoods?

CURRY OBENSHAIN,
Supt. Maintenance,
Brooks Transportation Co.
Richmond, Va.

LAUGH IT OFF

with SKAG SHANNON

Consolidation of routes had moved a driver to another town. With the wife, he was looking for an apartment. No dice, so they were looking at a room.

Owner—"How do you like this room as a whole?"

Wife—"As a hole, excellent; as a room, I see it's lousy!"

* * *

Cassie of Traffic was on her vacation: Just to have it over the other girls, she went by plane. In the middle of the night she felt the urge to take a walk. "Jeepers," she gurgled as her pale blue gown zipped up over her ears, and the plane soared on overhead, "that door wasn't to the powder room!"

* * *

Two tank line drivers were returning home late from a stag show. One left the other at his front door as he lived farther down the street. "Won't your wife hit the ceiling when you go in this late?"

"Probably will . . . she's a hell of a shot."

* * *

The shop foreman had been given a substantial raise. He kept the good news from the wife until payday, then handed her a big roll of bills. "I gotta raise, Honey, go get yourself some decent clothes."

Wife Hester counted the roll slowly. "Mike, I've worn decent clothes all my life. Now I'm going to dress like other women."

* * *

Visitor (on loading dock): "Look at that youngster with the cropped hair and slacks. It's hard to tell whether it is a boy or a girl."

Trucker: "She's a girl, and she's my daughter."

Visitor: "Forgive me, sir."

Trucker: "I'm not a SIR; I'm her mother."

It being Sunday, the new rate clerk was romping on the beach sands with the department's stenographer. The steno liked him, but he wasn't very aggressive. She hinted: "Would you like to see where I was operated on for appendicitis?"

"Naw," the NRW objected; "let's get a hot dog. I don't like hospitals."

* * *

Buelah from public relations was discussing marriage with Mert in the dispatcher's office: "When I get married, I'm going to cook, sew, darn his socks, light his cigarettes, go wherever he wants to. What more can a man want?"

Snickers . . . "Nothing unless he's evil minded."

* * *

DISPATCHER CALLING UP CHECKING POINT ON WHOLESALE RUN: "HAS PARKY ARRIVED YET?"

"ABOUT THIRTY MINUTES AGO."

"WELL, GET THE BUM ON THE PHONE."

"CAN'T. HE'S A.W.O.L."

"WHAT D'YA MEAN BY THAT?"

"AFTER WOMEN OR LIQUOR."

* * *

Superintendent: "Why so glum?"

Office Boy: "My girl turned me down last night."

Superintendent: There's plenty of girls. Buck up."

Office Boy: "Oh, I'm all right, sir. I'm just sorry for her."

* * *

Groom: "How did you make this cake, dear?"

Bride: "Here's the recipe. I clipped it from a magazine."

Groom: "Are you SURE you read the right side? The other side tells how to make a rock garden."

* * *

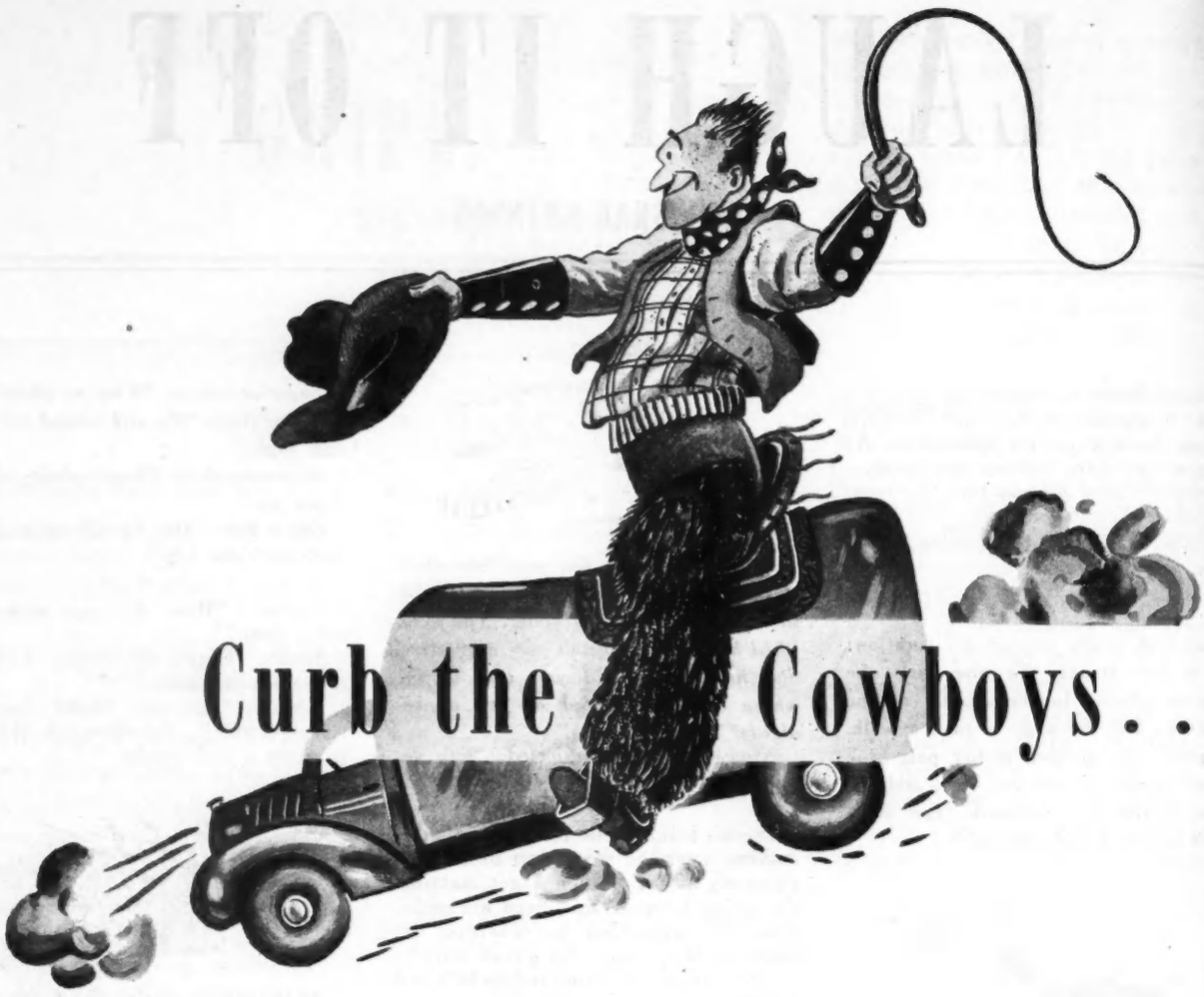
At the police station the truck driver was getting a grilling because of hijacking of his truck. They gave him the works—hotfoot, rubber hose, light and water torture. The sergeant looked in on the racket. "Did he talk?"

"Talk, hell," the chief stalwart mopped his mug with a pink handkerchief, "he kept dozing off, muttering—'all right, dear, you can have that new hat'."

* * *

(RESUME WORK)

"Well, here comes McClery from the Florida run."



Curb the Cowboys . .

Ways of tampering with governors and trip recorders revealed in interviews with hundreds of fleetmen, as are successful means of preventing these destructive practices

OF WHAT avail are preventive maintenance programs, wash and recreation rooms for drivers, comfortable cabs and reliable tractors if the "cowboys" are going to plug the governors and blast down the highway wide open in order to make enough time to keep a date with a hot torpedo at a chicken dinner joint?

One large fleet operator in North Carolina had five head-on collisions in one week—one of which was with a train. Every governor on engines involved in the accidents either had a broken seal or had been tampered with and resealed with seals bought along the road.

There are places all up and down the East Coast and on all the main highways between Boston, New York, Philadelphia and the South where seals may be purchased by drivers who cut out the governor and reseal.

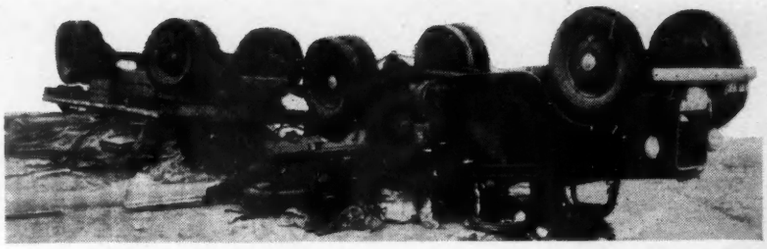
Undoubtedly, much of the money wasted by these practices could be diverted into the pockets of the truck drivers themselves in wages, or some of it could be spent for adding comfort inside the cabs.

Speeding of heavy tractors, whether or not accidents result, is not in the interest of economy of operation or conservation of equipment. The company is not getting what it is paying for. Abuses such as this, if allowed to continue, usually wind up with drastic action.

Governors are in use to conserve equipment, but the maintenance superintendent of one large truck line in Virginia said that the place to begin is with the man behind the wheel.

This outfit begins to get rid of its "cowboy" drivers just as soon as their actions start to show up, regardless of labor conditions. This company had a driver that cost them $8000 the first trip out, and they are disposed to tie up the rolling stock if they can't be manned by competent drivers who are of a mind to drive by company rules and not rules of their own making.

The "cowboys" are definitely in the minority. This same company has a driver who has been with them eight years. In eight years his governor has never been tampered with. Not long ago they put him in charge of a



FIVE ACCIDENTS, FIVE TAMPERED GOVERNORS

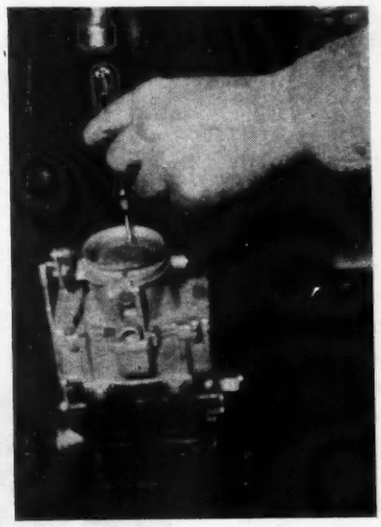
A fleet operator in North Carolina says, "Every governor on engines involved in five head-on collisions in one week either had a broken seal or had been tampered with and resealed with seals bought along the road."

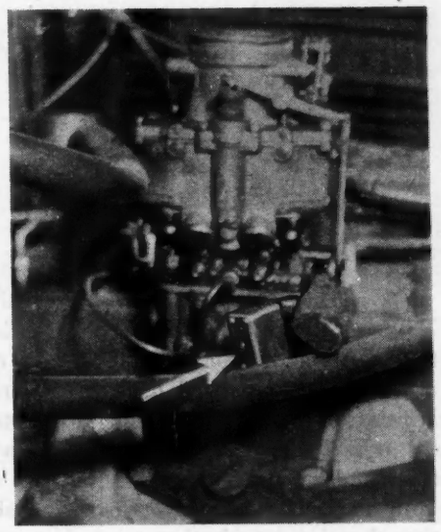
From a Virginia operator comes this comment: "Rough estimates indicate that equipment will last four times longer with a good driver than under a driver known as the 'cowboy' type and that, while running, the maintenance will be much less."

"Positive governor control of engines with settings at recommended r.p.m. save as much as 10 per cent in fuel costs alone, 30 per cent on brake maintenance and 35 per cent in accidents."

. . . Save the Trucks!

by L. H. HOUCK





Left. A bottle cap is often used by drivers to throw the governor out of commission. Above. A long screwdriver and a hammer used in this manner will do the trick. Right. One operator uses padlocks to prevent drivers from tampering with the seals

"splinter-fire" new unit with all the trimmings. After driving it 180,000 miles without an accident report or a bad order report, they decided to check it and discovered the governor was intact with original seal.

Its repair record was clear, and regular checking, draining, filter cartridge changing and greasing schedule has been enough to keep it running in perfect condition—because it was running at a predetermined economical speed.

In a further commentary on this truck driver the company said that his run consisted of 5 hr. and that they could look at the clock and call any relay station on the run and locate him within 10 min. He always drove on schedule, day in and day out.

Rough estimates indicate that equipment will last four times longer under such a driver than under a driver known as the "cowboy" type and that, while it is running, the maintenance will be much less.

Possible governor control of engines with settings at recommended r.p.m. save as much as 10 per cent in fuel costs alone, 30 per cent on brake maintenance and 35 per cent in accidents.

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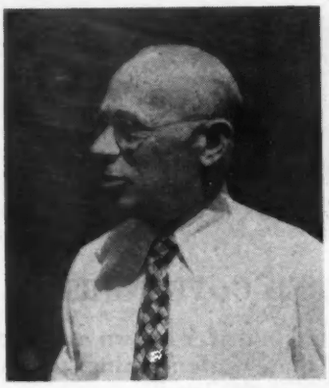


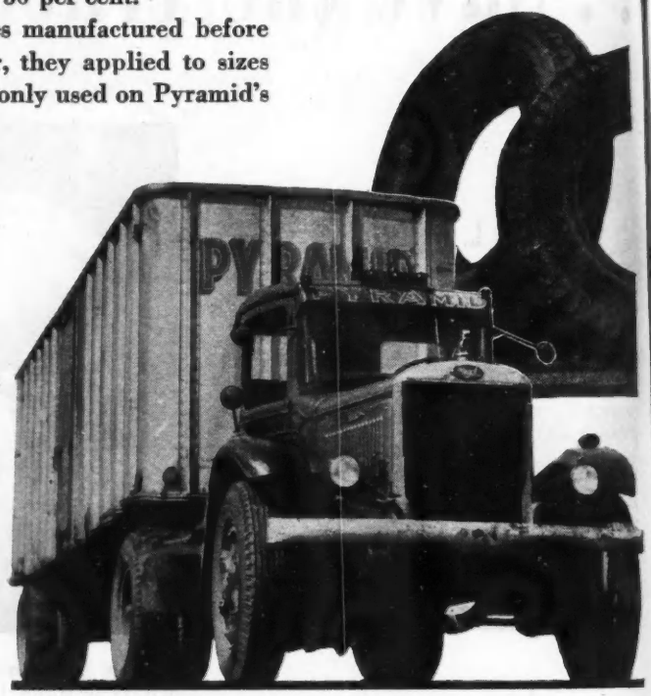
Fleet Finds Rayon Co

CHARLES ROSENTHAL, Vice President, Pyramid Motor Freight Corp., Philadelphia

MILEAGE GAIN FOR NATURAL RUBBER TIRES IS 30%

"With the prospect of a return to natural rubber tires in the not too distant future, fleet operators will be even more interested in Pyramid's comparative figures of mileages for both types of cord in tires made from natural rubber. A little better than 50,000 miles was the average from the old type cord, while rayon gave 60,000 to 70,000 miles, an increase of roughly 30 per cent.

"The foregoing mileage records were obtained on tires manufactured before the war and, like the figures given for synthetic rubber, they applied to sizes 10.00 x 22, 10.00 x 24 and 11.00 x 20, the sizes most commonly used on Pyramid's fleet of 200-odd road units."



Above. A typical vehicle from Pyramid's 200-vehicle fleet. Upper right. In a corner of the shop the tire man inspects rayon cord tire prior to mounting

BACK in 1943 the U. S. Army conducted a series of scientific tests which showed the overwhelming superiority of rayon cord fabric in heavy duty tires. It was on the strength of this evidence that the armed forces stipulated that rayon cord be used in all large military tires, while the WPB instructed tire manufacturers to use the same high-tenacity rayon in heavy truck and bus tires.

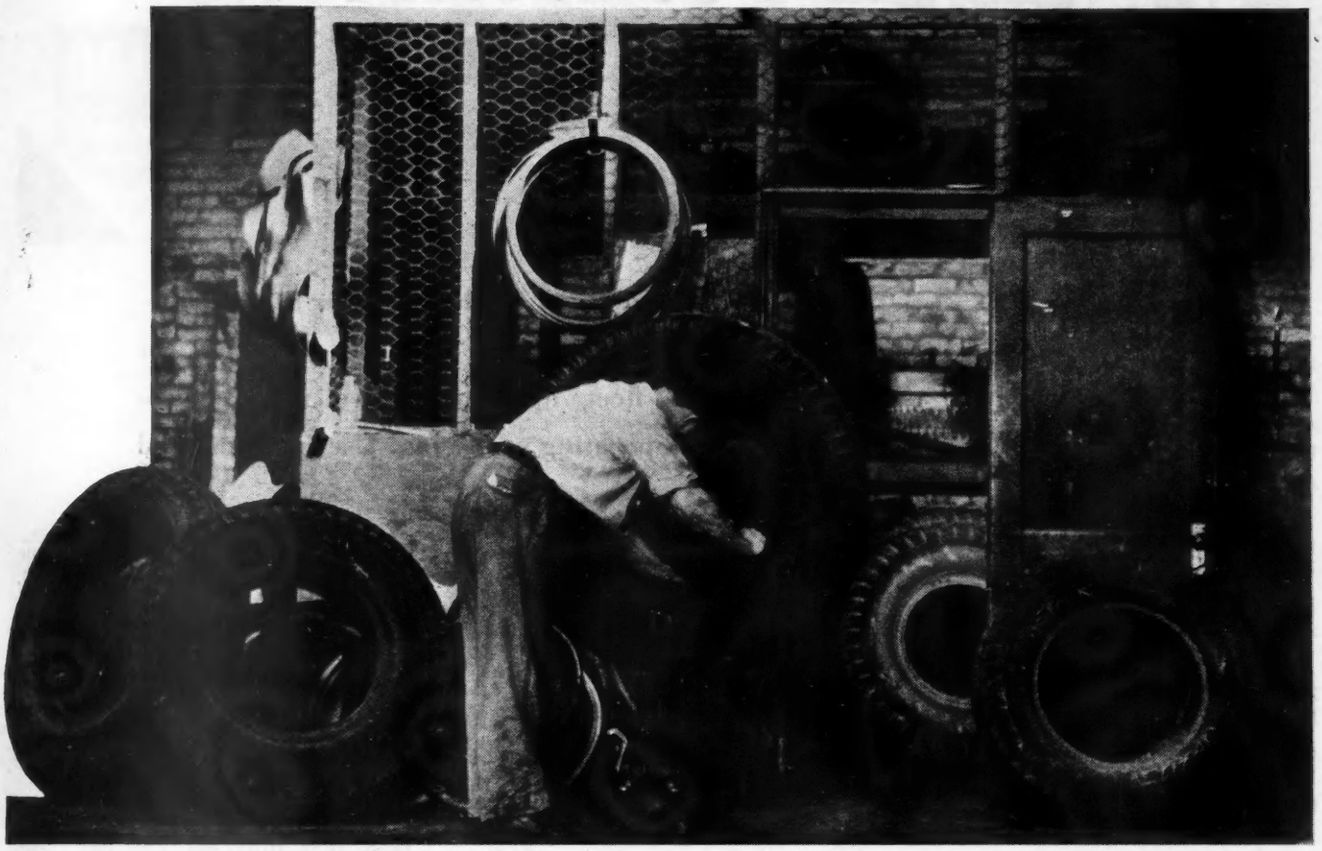
In the intervening two years the shortage of truck tires has been such that most fleet owners have been obliged to take what they can get, without much regard for cord content or rubber composition. The result has been that few operators have had an opportunity to conduct their own tests, or even to make their own comparisons, of the road performance of rayon cord tires.

Thus, while truckmen are greatly interested in knowing the facts about rayon, they want data on civilian experience and not on Army performance. Reports from fleets have been spotty, at best. Recently, however, a large fleet operator who has been able to use both kinds of cord in synthetic as well as natural rubber tires, and who has kept a careful record of each tire individually, reported on his experience. His most unequivocal conclusion was that rayon cord gives thousands of miles extra service regardless of rubber composition.

This fleet, the Pyramid Motor Freight Corporation, Philadelphia, found that synthetic rubber tires made with rayon cord give an average of about 42,000 miles, whereas synthetic tires made with conventional cord run only about 30,000 miles. This 40 per cent greater mileage on rayon compares fairly closely with the results shown in the Army tests, which proved rayon in synthetic rubber to have a superiority of 25 per cent on the heat test on desert roads, and a 55 per cent superiority in resistance to impact breaks on the test course at Camp Normoyle.

This latter figure is also closely substantiated by the

Cords Net 30-40% More Miles



Experience with both natural and synthetic rubber tires also shows rayon has greater resistance to blowouts and greater recapability; nets annual cash saving of $10,000

experience of the Pyramid fleet, whose vice president, Charles Rosenthal, reports that only about 2 per cent of the rayon cord tires suffer blowouts, whereas about 3½ per cent blowouts were experienced with the old type cord. The greater resistance of rayon to blowouts caused by impact and heat breaks gives it an advantage of approximately 45 per cent, according to these figures.

With the prospect of a return to natural rubber tires in the not too distant future, fleet operators will be even more interested in Pyramid's comparative figures of mileages for both types of cord in tires made from natural rubber. A little better than 50,000 miles was the average from the old type cord, while rayon gave 60,000 to 70,000 miles, an increase of roughly 30 per cent.

The foregoing mileage records were obtained on tires manufactured before the war and, like the figures given for synthetic rubber, they applied to sizes 10.00 x 22, 10.00 x 24 and 11.00 x 20, the sizes most commonly used on Pyramid's fleet of 200-odd road units. Tractor-trailer combinations predominate in this fleet, and most of the hauling is over the road, with an average round-trip run of 200 miles between eastern cities. Some local hauling is done in Philadelphia, where the trucks average 50 to 75 miles a day, over comparatively rough roads.

It is interesting to note that the mileage results reported by Mr. Rosenthal confirm in large measure a statement

(TURN TO PAGE 128, PLEASE)

free PUBLICATIONS

USE THE POSTCARD NO STAMP NEEDED

A selected list of the latest in literature—books, pamphlets, catalogs — chosen to help fleet operators solve maintenance and operating problems. Use free postcard

L17. Diesel Lubrication Book

Fleet operators having diesel powered equipment will be interested in this new 50-page publication entitled, "The Lubrication of Automotive Diesel Engines" which provides answers to common problems of diesel engine operation and maintenance. The attractively illustrated, 8½ x 11-in. publication will prove useful in helping owners in securing the desired power output, trouble-free operation and long engine life.

The introduction of the booklet gives some interesting facts on the history of diesel engine power. Chapter headings include such topics as: Lubricating Functions of the Oil, Cooling Function of the Oil, Selection and Care of Lubricating Oils.

Another division of the booklet takes up diesel fuels, compares the diesel fuel combustion with gasoline engine combustion. Finally, the operation of the diesel is discussed with valuable maintenance information.

The last chapter is devoted to hints on trouble shooting.

The booklet is available for the writing of L17 on the free postcard.

L18. Pamphlet on Snow Melting

"Enough experience is now available to warrant the opinion that heated underground snow melting lines, designed and installed exclusively for snow removal, constitute a practical method of eliminating snow from sidewalks, driveways, parking lots and ramps," says the author of a new pamphlet now available to the industry.

This 6-page publication brings together all available information relating to snow removal through the use of wrought iron pipes circulating steam or water beneath the concrete.

This informative booklet is available for the writing of L18 on the free postcard.

L19. Oil Diagnosis Charts

A series of four full-color wall charts picturizing the fundamentals of oil cleansing and cartridge diagnosis has been published in the interests of fleet operators and their maintenance men. Combined in the charts are the scientific findings of years of research by technicians both in the field and in the laboratory.

These charts are published as a result of widespread interest on the part of fleet operators, engine builders and service men in the basic principles involved in oil cleansing as presented to SAE meetings, dealer and automotive service men's clinics throughout the country. Write L19 on the free postcard for a copy.

L20. Parts Cleaning Booklet

"Up to 80 per cent of all automotive parts which would otherwise have been discarded because of scale or rust, may be reclaimed with modern pre-cleaning methods," says the author of a new 14-page booklet just released by a well-known manufacturer.

This 8 x 11-in. booklet, fully illustrated, explains in detail how to plan, install and manage a production line set-up for automotive engine rebuilding with respect to cleaning problems. Some of the technical problems clarified are: Oil and grease removal, carbon removal, scale and rust removal, cleaning and brightening carburetors and fuel pumps and preparing surfaces for painting.

Those operators not interested in mass rebuilding still can find valuable information in the booklet for cleaning and restoring parts on a smaller scale.

A copy is available for the writing of L20 on the free postcard.

L21. Fire Fighting Booklet

"Statistics show that 1/9 of all fire alarms are for motor vehicles." says the author of a new instructive 32-page booklet on truck fire fighting methods.

This booklet consists, for the most part, of simple, concise instructions on what to do when fire breaks out—how to handle ignition fires, gasoline fires, fires in the interior of the truck and others. The booklet also furnishes simple rules to follow in the prevention of vehicle fires. Complete I.C.C. safety regulations are likewise included.

The booklet is available for the writing of L21 on the free postcard.

(TURN TO PAGE 138, PLEASE)

USE THE POSTCARD NO STAMP NEEDED

new PRODUCTS

The newest in replacement parts, accessories, shop equipment and supplies. For more details of products described or advertised, use the accompanying free postcard

P144. Fabric Preserver

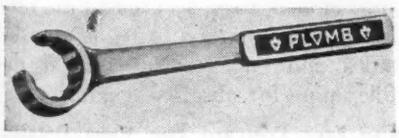
Soldine Corp., Evanston, Ill., has developed a waterproofer, preserver and weatherproofer for all types of fabrics. This new product, called Soldine V-110, when brushed or sprayed on fabric, is said to keep it flexible, make it immune to cracking and peeling and to increase its resistance to rot, flame, discoloration and deterioration.

The liquid can be applied to tail gate coverings, open truck coverings, floor coverings, etc., to make them longer lasting and water-resistant.

Use Free Postcard For More Details.

P145. Flare Nut Wrench

A new flare nut wrench, for use on plastic pipe, tubing and soft metal fittings is announced by the Plomb Tool Co., Los Angeles, Cal.



The head is flat based on a modified 12-point design, with opening which allows access to fittings around tubing. These features, coupled with deep, thin walls, permit use in close places and small turning arcs. Possibility of damage to the fitting is remote because the wrench has better contact with the nut and cannot slip and chew it.

The primary uses of the flare nut wrench are in the assembly and maintenance of all types of lines, including fluid, air, gas, etc.

Use Free Postcard For More Details.

P146. Light Pneumatic Hammer

A small pneumatic hammer, delivering some 13,000 blows per minute and operating on less than 2 cu. ft. of air at 80 to 100 p.s.i. is being released by the Superior Mfg. Co., Cleveland, Ohio.

Weighing less than 2 lb., the hammer, named the "Bantam Bully," fits easily into the hand. A pistol grip handle gives the operator control of the firing power of the hammer. The valve control, in pistol trigger position, adds to the ease of control.

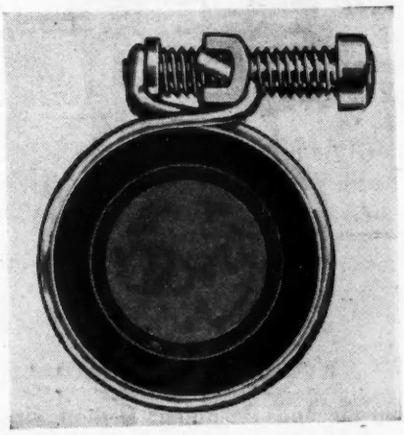
Tools for the hammer are loaded in a quick acting ball-and-channel locking chuck. A quarter-turn of the knurled nose of the chuck releases any of the tools.

The "Bantam Bully" hammer has only one moving part, the piston striking member, which is precision-fitted in a finely ground cylinder. The tool can be used for cold chiseling, peening, light riveting, paint and rust removal, fender work and other related jobs.

Use Free Postcard For More Details.

P147. Wire Hose Clamp

The Central Equipment Co., Chicago, Ill., has designed a new type hose clamp said to provide 360 deg. of uniform clamping power. The



crossing of the wires in opposite directions forms a constant perfect circle, with equal pressure being exerted throughout the entire circumference of the clamp.

The takeup is governed completely by the length of the screw used. The clamp can be assembled or disassembled without disconnecting the hose line. Leakage is said to be impossible, no matter how rough the casting may be.

Use Free Postcard For More Details.

(TURN TO NEXT PAGE, PLEASE)

NEW PRODUCTS

(Continued from Page 59)

USE THE POSTCARD

BETWEEN PAGES 58 AND 59

P148. Aluminum Waterproofer

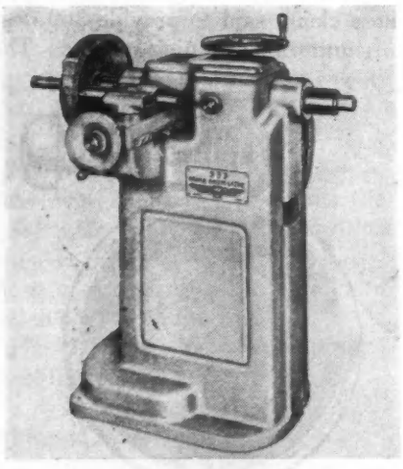
A ready-mixed protective material for truck roofs will be marketed as No. 2700 Dolfinite aluminum waterproofing by the Dolphin Paint & Varnish Co., Toledo, Ohio. The liquid covers any surface with one coat and provides an attractive appearance.

This material is of heavy body and high aluminum content but will brush or spray freely. It is heat repelling, contains water and weather resisting liquids and can be used with or without primer, according to the manufacturer.

Use Free Postcard For More Details.

P149. Brake Drum Lathe

The No. 333 Brake Drum Lathe is now available from the Van Norman Co., Springfield, Mass. This 650-lb. lathe is built to take all drums



up to and including 1½-ton size, with duals mounted. It has a 3-in. sliding and rotating spindle and may be equipped with a heavy duty grinder attachment. Other features include two speeds and two feeds, automatic stops and hand-scraped

Use Free Postcard For More Details.

P150. Electric Sander

The Detroit Surfacing Machine Co., Detroit, Mich., announces two new models of the Easy Reciprocating Electric Sanders, the XL50 and the XL90.

The company reports new features including floating pistol-grip type handles mounted on rubber, a more powerful motor, perfected balancing, slide type switch mounted on side of handle and other improvements on both models.

It is claimed that the new units are practically vibrationless, cut faster and are simple to operate. Model XL50, illustrated, is equipped with ¼-in. felt of rubber sanding pad—not detachable. The Model XL90 is equipped with one detachable bottom plate and the ¼-in. felt or rubber pad.

In both models the company retains the original straight-line, reciprocating action that mechanically duplicates the back-and-forth motion of hand sanding, rubbing or polishing.

Use Free Postcard For More Details.

P151. Hole Cutter Kit

A new tool kit for cutting holes of various diameters in wood, metal or plastics is announced by Bruno Tools, Beverly Hills, Cal.

The kit, known as No. 790, is available with straight shanks for use in drill presses, pneumatic and portable electric drills. It contains one model No. 100 adjustable hole cutter (with ¼-in. shank) for cutting holes ⅝-in. to 1¼-in. and one Model No. 101 (⅜-in. shank) that cuts holes 1-in. to 2½-in. Thus the kit covers all diameters ⅝-in. to 2½-in. Tools are equipped with high-speed steel blades having an all-purpose grind for cutting efficiently in wood, metal, transite, masonite and other "problem" materials.

Use Free Postcard For More Details.

P152. Theft-Proof Tank Cap

The Super Gas Tank Cap—keyless, theft-proof, siphon-proof, loss-proof—is announced by Crandall Mfg. Co., Los Angeles, Cal. One model cap fits all styles and sizes of filler pipes.

Equipped with chrome-plated spring hinged cover and ball catch, the Super requires no special tools to install; once in place, it is fitted tightly and cannot be removed. Made with a swaged neck of correct dimensions to permit rapid filling, the cap body has cast-in bottom baffles to prevent siphoning of gasoline from the tank. The streamlined design of

the baffles eliminates bubbling and spilling as the tank is filled. A U-shaped steel fork, secured to the bottom of the fixture, extends up the sides and engages the rim of the filler pipe for absolute locking.

Use Free Postcard For More Details.

P153. Parts Cleaning Machine

A new portable type parts cleaning machine, which agitates the cleaning fluid by air pressure only, has just been announced by the Park Chemical Co., Detroit, Mich.

Designed especially for use in

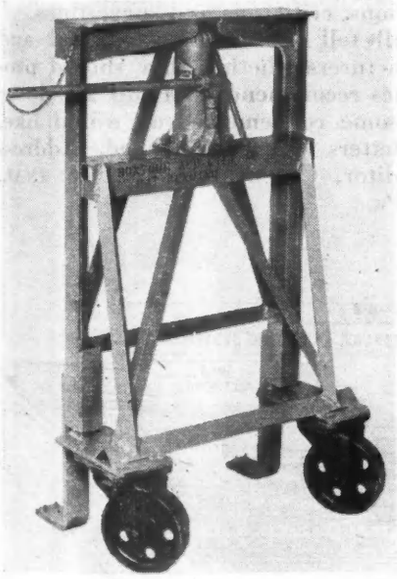
automotive and other repair shops, this new Parko unit is said to remove grease, grime and carbon from carburetors, fuel pumps, tools, electrical parts, instruments, etc., in a very few minutes. No heat is required.

Two systems of cleaning are combined in the one unit. Large parts to be cleaned are placed in the tank, and the cleaning solution is agitated by means of air pressure. The air is dispelled from a series of holes in a pipe which runs lengthwise at the bottom of the tank. Small parts such as screws, washers, etc., are placed in the round basket and soaked in the solution for a few minutes.

Use Free Postcard For More Details.

P154. Hydraulic Lift Truck

The Montour Mfg. Co., Minneapolis, Minn., has developed a new type lift truck for moving heavy crates or parts inside the shop. The device, known as the Rol-A-Lift, is a two-wheeled truck attached to an



elevating frame with forks located for easy insertion under the load. A hydraulic jack located on the two-piece frame lifts the load to the desired height or up to 9½ in. When both ends of the load are thus lifted, two men can handle easily practically any cumbersome unit up to 6000 lb., according to the manufacturer.

Swiveling ball bearing casters allow heavy parts to be pushed easily. When in place, the load can be lowered by turning the handle of the hydraulic jack. Two models are available, the M-4 illustrated, with a capacity of 4000 lb. and a lift of 12 in.; and the M-6, with a capacity of 6000 lb. and a lift of 9½ in.

Use Free Postcard For More Details.

P155. New Battery Charger

A new automotive battery charger has been announced by the Kathanode Corp., a subsidiary of the National Battery Co., St. Paul, Minn.

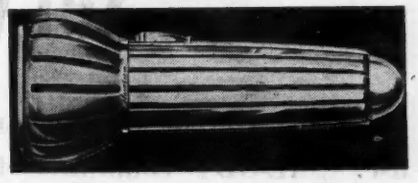
Known as the "Kathanode All Purpose Charger," the new unit has many features designed to simplify the process of testing and charging automotive storage batteries.

The one-control testing procedure and the slow charging panel were both developed by Kathanode engineers. By means of the former, the operator can quickly and accurately determine the condition of a battery without removing it from the car. The panel makes it possible to slow-charge one to 10 batteries during night hours when fast-charging is not required.

Use Free Postcard For More Details.

P156. New Type Reflector

A light reflector of different design is announced by the General Detroit Corp., Detroit, and the General Pacific Corp., Los Angeles. By means of a new principle of light reflection, it eliminates the "dark spot" produced by conventional reflectors. Called the Diamond Facet Reflector, it is made for use in flashlights, searchlights, lanterns, spotlights, and floodlights of all sizes and types. A special flashlight called "Floodbeam," which incorporates the new reflector, is also being marketed by the two corporations.



The Diamond Facet Reflector's design makes use of the fact that nothing reflects light like a diamond. In place of a smooth wall finish, which causes light beams to clash with one another, this reflector has a surface broken into multiple diamond shapes to reflect all of the light.

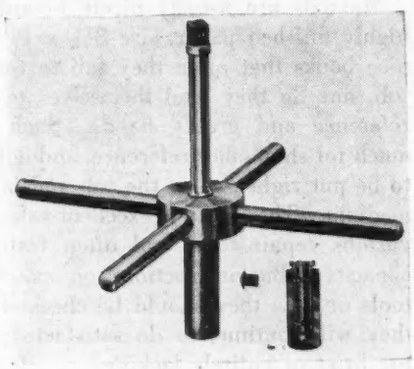
Use Free Postcard For More Details.

P157. High-Speed Wrench

A new time- and labor-saving, high-speed, ball-bearing wrench adapted for tire, brake and engine work is now being manufactured by the Patrick-McDermott Co., Los Angeles, Cal.

According to the manufacturer, the Gyro Speed Wrench reduces by 30 to 40 per cent the spinning time (either on or off) for wheel and rim retaining nuts, stud screws and motor bolts and nuts.

The feature is the ball-bearing handle which allows the four lever bars to spin, developing the inertia



force or fly wheel effect that speeds the job.

In addition to being a handy tool for tire nuts, the new wrench is being used on cylinder head stud nuts, pan work, engine assembly and wherever a standard speed wrench is

(TURN TO PAGE 134, PLEASE)

Standardized Service Instructions

Data in average maintenance manual is inadequate, format unsuited to on-the-job use. SAE-ODT committee favors 14x18 in. greaseproof cards with full data, indexes

J. Willard Lord

by J. WILLARD LORD

of the Atlantic Refining Co., and Chairman, SAE Subcommittee of Standard Service Instruction

THE automotive industry has been lavish in its gorgeous sales literature and its widespread advertising campaigns, and it has done an excellent job in the preparation of parts catalogs and in keeping these up to date. But the caliber of typical maintenance instructions does not exhibit a comparable effort. Simple disassembly and assembly instructions provided by vehicle manufacturers often are fair, but maintenance data—that is, instructions, test data and procedure for diagnosing defective operation, and data covering permissible tolerances for refitting or adjusting of worn parts—are seriously lacking.

The industry has prepared some fair repair manuals. You will find them used in the better dealer organizations, where they may be in the hands of each mechanic. However, in fleet shops you may find single copies in the hands of the shop foremen but rarely in the hands of individual mechanics. When manuals are held by the shop foreman, mechanics hesitate to ask to see them.

Manuals are usually nicely bound books, printed on highly finished paper, size 8½ x 11 in. They are such nice books that often they fail to reach the man on the job, nor do they lend themselves to "on the job" shop reference and greasy hands. Such manuals are very much for shop office reference, and not especially designed to be put right out on the job and be used as a working medium. There also is excellent sales literature picturing various repair tools and often featuring their earning capacity. But instructions on exactly how to use the tools or how they should be checked and maintained so they will continue to do satisfactory work, is often all too brief or entirely lacking.

There seems to be a lack of balance on the part of manufacturers in the spending of the sales expense dollar. The truck operator, on the one hand, spends thousands of dollars for repair shop facilities, tools and other equipment, and spends thousands more maintaining his fleet purchased for maybe $50,000, $100,000 or $200,000 from some manufacturer who, on the other hand, has

(TURN TO PAGE 64, PLEASE)

Since March, 1945, COMMERCIAL CAR JOURNAL has published numerous gripes from fleet maintenance men about the service manuals they have been using. This month they can sit back and study the findings and recommendations of a special SAE-ODT committee on standard service instructions, as reported by the committee's chairman.

Will this committee's recommendations satisfy fleet maintenance men? That is what COMMERCIAL CAR JOURNAL would like to know. Readers are invited to express their opinions, criticisms and suggestions.

Your letters will tell truck, accessory, tool and equipment manufacturers whether they should proceed along the lines recommended in this article or if there still are some refinements you would like.

Representative letters will be published. Address your letter to Editor, COMMERCIAL CAR, JOURNAL, Philadelphia 39, Pa.

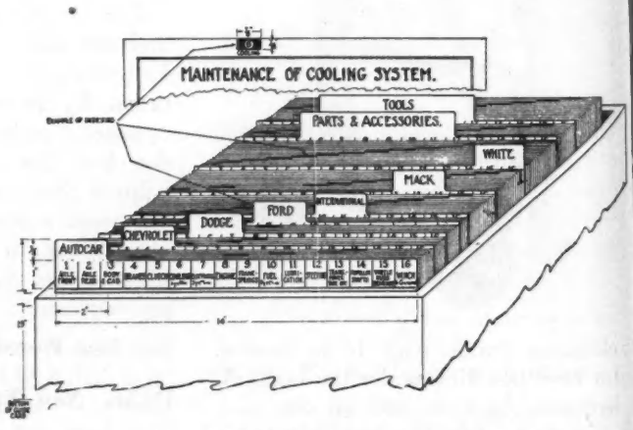
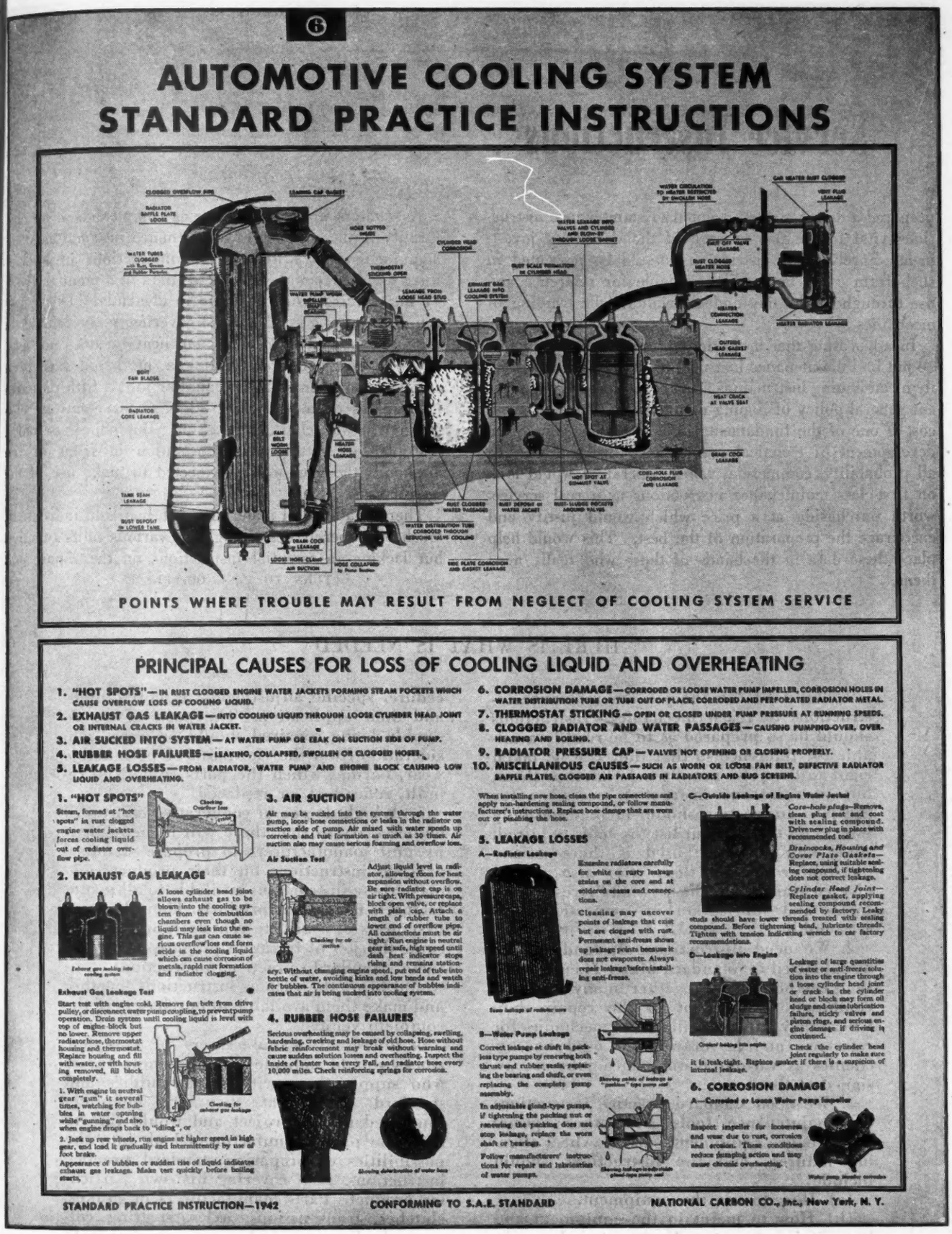


Fig. 1. Filing system suitable for the average fleet operator. It is composed of guide cards and indexes for each make and model of truck in the fleet, tools, parts and accessories. There are 16 index cards for each type of vehicle. File is 14 in. wide, 19 in. high



⑥

AUTOMOTIVE COOLING SYSTEM STANDARD PRACTICE INSTRUCTIONS

POINTS WHERE TROUBLE MAY RESULT FROM NEGLECT OF COOLING SYSTEM SERVICE

PRINCIPAL CAUSES FOR LOSS OF COOLING LIQUID AND OVERHEATING

1. **"HOT SPOTS"** — IN RUST CLOGGED ENGINE WATER JACKETS FORMING STEAM POCKETS WHICH CAUSE OVERFLOW LOSS OF COOLING LIQUID.
2. **EXHAUST GAS LEAKAGE** — INTO COOLING LIQUID THROUGH LOOSE CYLINDER HEAD JOINT OR INTERNAL CRACKS IN WATER JACKET.
3. **AIR SUCKED INTO SYSTEM** — AT WATER PUMP OR LEAK ON SUCTION SIDE OF PUMP.
4. **RUBBER HOSE FAILURES** — LEAKING, COLLAPSED, SWOLLEN OR CLOGGED HOSES.
5. **LEAKAGE LOSSES** — FROM RADIATOR, WATER PUMP AND ENGINE BLOCK CAUSING LOW LIQUID AND OVERHEATING.
6. **CORROSION DAMAGE** — CORRODED OR LOOSE WATER PUMP IMPELLER, CORROSION HOLES IN WATER DISTRIBUTION TUBE OR TUBE OUT OF PLACE, CORRODED AND PERFORATED RADIATOR METAL.
7. **THERMOSTAT STICKING** — OPEN OR CLOSED UNDER PUMP PRESSURE AT RUNNING SPEEDS.
8. **CLOGGED RADIATOR AND WATER PASSAGES** — CAUSING PUMPING-OVER, OVER-HEATING AND BOILING.
9. **RADIATOR PRESSURE CAP** — VALVES NOT OPENING OR CLOSING PROPERLY.
10. **MISCELLANEOUS CAUSES** — SUCH AS WORN OR LOOSE FAN BELT, DEFECTIVE RADIATOR BAFFLE PLATES, CLOGGED AIR PASSAGES IN RADIATORS AND BUG SCREENS.

1. "HOT SPOTS"

Steam, formed at "hot spots" in rust clogged engine water jackets forces cooling liquid out of radiator overflow pipe.

2. EXHAUST GAS LEAKAGE

A loose cylinder head joint allows exhaust gas to be blown into the cooling system from the combustion chambers even though no liquid may leak into the engine. This gas can cause serious overflow loss and form acids in the cooling liquid which can cause corrosion of metals, rapid rust formation and radiator clogging.

Exhaust Gas Leakage Test

Start test with engine cold. Remove fan belt from drive pulley, or disconnect water pump coupling, to prevent pump operation. Drain system until cooling liquid is level with top of engine block but no lower. Remove upper radiator hose, thermostat housing and thermostat. Replace housing and fill with water, or with housing removed, fill block completely.

1. With engine in neutral gear "gun" it several times, watching for bubbles in water opening while "gunning" and also when engine drops back to "idling", or
2. Jack up rear wheels, run engine at higher speed in high gear, and load it gradually and intermittently by use of foot brake.

Appearance of bubbles or sudden rise of liquid indicates exhaust gas leakage. Make test quickly before boiling starts.

3. AIR SUCTION

Air may be sucked into the system through the water pump, loose hose connections or leaks in the radiator on suction side of pump. Air mixed with water speeds up corrosion and rust formation as much as 30 times. Air suction also may cause serious foaming and overflow loss.

Air Suction Test

Adjust liquid level in radiator, allowing room for heat expansion without overflow. Be sure radiator cap is on air tight. With pressure cap, block open valve, or replace with plain cap. Attach a length of rubber tube to lower end of overflow pipe. All connections must be air tight. Run engine in neutral gear at safe, high speed until dash heat indicator stops rising and remains stationary. Without changing engine speed, put end of tube into bottle of water, avoiding kinks and low bends and watch for bubbles. The continuous appearance of bubbles indicates that air is being sucked into cooling system.

4. RUBBER HOSE FAILURES

Serious overheating may be caused by collapsing, swelling, hardening, cracking and leakage of old hose. Hose without fabric reinforcement may break without warning and cause sudden solution losses and overheating. Inspect the inside of heater hose every Fall, and radiator hose every 10,000 miles. Check reinforcing springs for corrosion.

When installing new hose, clean the pipe connections and apply non-hardening sealing compound, or follow manufacturer's instructions. Replace hose clamps that are worn out or pinching the hose.

5. LEAKAGE LOSSES

A—Radiator Leakage

Examine radiators carefully for white or rusty leakage stains on the core and at soldered seams and connections.

Cleaning may uncover points of leakage that exist but are clogged with rust. Permanent anti-freeze shows up leakage points because it does not evaporate. Always repair leakage before installing anti-freeze.

B—Water Pump Leakage

Correct leakage at shaft in packless type pumps by renewing both thrust and rubber seals, replacing the bearing and shaft, or even replacing the complete pump assembly.

In adjustable gland-type pumps, if tightening the packing nut or renewing the packing does not stop leakage, replace the worn shaft or bearings.

Follow manufacturers' instructions for repair and lubrication of water pumps.

C—Outside Leakage of Engine Water Jacket

Core-hole plugs—Remove, clean plug seat and coat with sealing compound. Drive new plug in place with recommended tool.

Drainocks, Housing and Cover Plate Gaskets—Replace, using suitable sealing compound, if tightening does not correct leakage.

Cylinder Head Joint—Replace gasket, applying sealing compound recommended by factory. Leaky studs should have lower threads treated with sealing compound. Before tightening head, lubricate threads. Tighten with tension indicating wrench to car factory recommendations.

D—Leakage into Engine

Leakage of large quantities of water or anti-freeze solution into the engine through a loose cylinder head joint or crack in the cylinder head or block may form oil sludge and cause lubrication failure, sticky valves and piston rings, and serious engine damage if driving is continued.

Check the cylinder head joint regularly to make sure it is leak-tight. Replace gasket if there is a suspicion of internal leakage.

6. CORROSION DAMAGE

A—Corroded or Loose Water Pump Impeller

Inspect impeller for looseness and wear due to rust, corrosion and erosion. These conditions reduce pumping action and may cause chronic overheating.

STANDARD PRACTICE INSTRUCTION—1942 CONFORMING TO S.A.E. STANDARD NATIONAL CARBON CO., Inc., New York, N. Y.

Fig. 2. An example of the type of standard instruction card approved by the SAE-ODT Committee. The card is 14 x 18 in., is large enough to lend itself to step-by-step instructions, printed in large type. The card above covers two phases of radiator maintenance. It explains how to diagnose and adjust and tells how to repair and rebuild parts of the cooling system. This instruction card will take a lot of rough handling. It is made of grease-proof, high-grade paper. Diagrams and cut-away views help to clarify all points. Ten causes of loss of coolant and over-heating are outlined in easy-to-read style. Remedial measures are given in nine definite steps. Reverse side is devoted to cooling system cleaning, rust-proofing and anti-freeze service

Standardized Service Instructions . . .

(Continued from page 62)

prepared a dollar manual devoted to maintenance instructions vital to the proper care of the operator's investment. Surely these instructions should be presented in such form as to be readily available for reference and use throughout the day and to facilitate the training of mechanics.

In advocating that more thought and time and money be put into maintenance instructions, it does not necessarily mean issuing instructions at no cost. Possibly the present general policy of issuing maintenance literature at no cost is one of the fundamental difficulties hampering the development of technical maintenance instructions. In all probability, commercial vehicle operators would look on first-class maintenance instructions as a real service, worth purchasing at a price which would justify and encourage the preparation of the best. This would help place these data in the hands of those who really need them.

As matters now stand, there is complete lack of uniformity in the issuance of maintenance instructions. One manufacturer may issue repair instructions in booklet form 4 x 8 in.; another issues his data in a manual 8½ x 11 in.; a third issues his data in a manual 11½ x 16; a fourth issues a good manual covering every vehicle on the market but it is so bulky and heavy it does not lend itself to ready reference after a mechanic has been assigned some simple but unfamiliar job; a fifth prepares instructions on a wall chart 22 x 38 in.; someone else gets out a wall chart 18 x 24 in. But none has had a real plan of getting the information in front of the mechanic, the man who is expected to make use of the instructions.

There is a mass of material, good, bad, and indifferent, much of it merely describing how various units function but lacking in essential instructions on the repair and

(TURN TO PAGE 66, PLEASE)

HERE IS WHAT IS NEEDED

1. We need "on the job" maintenance instructions to reach mechanics. Instructions should be so prepared as to be readily available for reference so that they can be taken right to the job—not a whole book of them, but just the one instruction necessary for the job. Instruction should include not only how to do the job, but list the tools required, show how they are used if there is any question regarding their use; also should give clearances and fittings, and stress cleanliness and lubrication in connection with reassembly.

2. We need instructions of standard size and indexed for standard filing. Then instructions can be brought together in any desirable combination and kept in the repair shop where they will be available to mechanics for reference and be drawn and used by mechanics as various maintenance jobs are assigned to them.

3. We need standard practice instructions for maintenance tools and other special maintenance equipment, such as wheel aligning fixtures; and the instructions should include:

(a) How to use the equipment.

(b) How to maintain the equipment and keep it in accurate adjustment and repair.

4. The very character of the material needed would indicate that possibly it should be prepared by maintenance engineers associated with the engineering department. The instructions from start to finish should be devoted to accurate diagnosis, rebuilding procedure, specific adjustments, essential tools, and their application. The parts of an assembly being repaired should be given consideration from the viewpoint of permissible wear, beyond which the parts should be rebuilt, refinished, or replaced.

5. A high degree of cooperative effort will be necessary so that there will be agreement by unit manufacturers to prepare standard practice instructions on their products and make these instructions available to all manufacturers using their products. Then the manufacturers of complete vehicles would not assume the job of trying to prepare or rewrite these standard practice instructions, but would bring the various instructions together and make them available to purchasers of the complete vehicle.

6. Interested manufacturers of complete trucks should indicate to the manufacturers who supply them with sub-assemblies and standard parts that they are definitely interested in the project and would like to have the parts manufacturers look into the possibilities of preparing standard practice instructions, each covering his own particular product. Parts manufacturers of brakes, clutches, transmissions, axles, steering columns, fuel pumps, and so on, can cooperate by preparing studies of what can be done and laying plans now. It is a big project and it cannot all be done in a moment, but we are sure much can be done if the automotive industry and affiliated manufacturers will take hold.

REPLACEMENT OF WORN 8 MAIN and ROD BEARINGS CARD 2

FEDERAL Mogul — STANDARD PRACTICE INSTRUCTIONS FOR THE PROPER INSTALLATION OF MAIN AND CONNECTING ROD BEARINGS

Replacement Procedure

(For Tools required, see Card No. 1)

This outline covers the steps necessary to replace regular type main and connecting rod bearings that use the locking lip and corresponding slot as a means of holding them in place. For other types of locking devices, such as doweled bearings, follow these steps, but change them to suit any special conditions found.

1. Drain the oil and remove oil pan.

2. Attach Oil Leak Detector to engine oil pressure system.

3. Operate Detector and observe points of maximum oil leakage. If camshaft bearings leak badly, these should be replaced (see Card No. 3).

DISMANTLING THE ENGINE

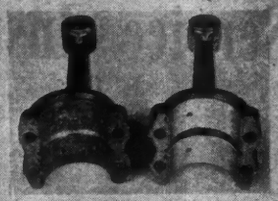
4. Check each connecting rod to see that blade and cap halves are properly marked as pairs, and with respect to cylinder position. Note whether markings are toward or away from camshaft side of engine.

5. Remove all connecting rod and piston assemblies from engine by removing cotter pin or lock nut from each connecting rod bolt, and removing the nuts. Some rod assemblies must be removed from the top by taking cylinder head off; others come out at the bottom.

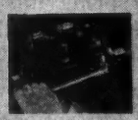
6. Important: Where shims are used at rods or mains, remove carefully and keep with each rod or main bearing cap, to be reassembled in exactly same positions as originally.

7. Remove old bearing from rod and cap, proceeding from No. 1. Clean rod bore and parting faces thoroughly. Inspect each bearing and attempt to diagnose failures by consulting Card No. 1. Examine crankpins at this point. See No. 28.

8. If rod or cap parting faces show file marks, connecting rod MUST be replaced. NEVER FILE THE CONNECTING ROD PARTING FACES.



9. Loosen all main bearing caps, loosening nuts enough to allow the crankshaft to drop about 1/32". Note relative markings on caps for position and relation to camshaft.

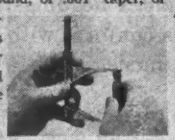


10. Remove front main bearing cap. Roll out upper half bearing by inserting a special plug in crankshaft oilway and turning the crankshaft so that locking lip edge of bearing rolls out first. *Dowel type excepted.*

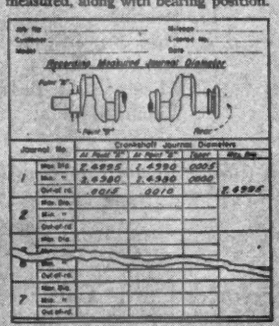
MAIN BEARING INSTALLATION

11. Clean main bearing journal. Measure maximum and minimum diameters of journal approximately 1/4" from each end, with crankshaft caliper.

12. With inside micrometers, measure and write down caliper distance each time. If journal measures more than .003" out-of-round, or .001" taper, or surface of journal appears rough or ridged, regrind shaft (See Card No. 3).

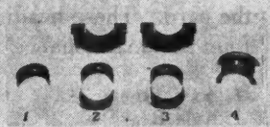


13. Note maximum shaft diameter measured, along with bearing position.



14. Proceed with other mains individually as described in Nos. 10, 11, 12 and 13, except a front and rear intermediate, or any two mains, to keep shaft hanging in place. Inspect all bearings for failure (see Card No. 1 for causes).

15. When all but the two (a front and rear intermediate) have been recorded, replace front and rear main bearing caps and their old lower bearings. Tighten just enough to relieve intermediates. Remove these and proceed as described in Nos. 10, 11, 12 and 13.



16. Select desired running oil clearance.

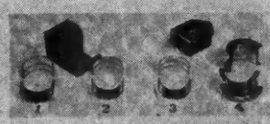
TABLE OF RECOMMENDED OIL CLEARANCES FOR VARIOUS TYPES OF ENGINE MAIN BEARINGS

For pressure (force feed) lubrication

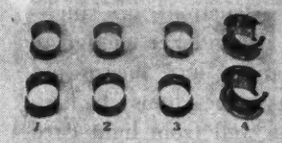
Dia. Crankshaft Journal	Clearance in inches Tin Base babbit or High Lead Babbit	Clearance in inches Genuine Cadmium Alloys	Clearance in inches Copper Leads
2 to 2⅜	.0015	.0020	.0025
2⅜ to 3½	.0025	.0030	.0035
3½ to 4	.0030	.0035	.0040

Note from this table of Recommended Oil Clearances that different crankshaft sizes and different bearing alloys require different oil clearances.

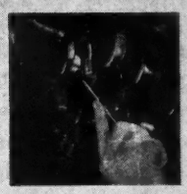
17. Obtain new bearings to give this oil clearance with each maximum shaft size previously recorded.



18. Check each new bearing against old corresponding part, to see that oil grooves, holes and lip locations correspond.

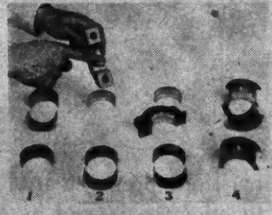


19. Clean crankshaft oilways by pushing wire brush through each drilled hole.



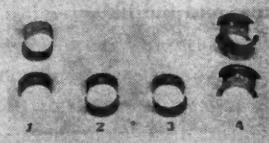
20. Clean crankcase bearing saddle, journal and cap thoroughly. Wipe bearing halves. Handle with care. Avoid dropping or nicking.

21. Insert correct lower half bearing into each cap. Make sure lip nests into slot. Smear all bearing surfaces with engine oil.



22. Roll upper bearing halves into place one at a time with the plug in oilway, making sure that locking lip seats into its slot last.

23. Replace main bearing caps in correct locations (reinserting shims if used in original assembly). Check their positional markings and pull bolts up lightly, leaving caps loose by 1/32".



24. Remove front and rear caps that held the crankshaft. Proceed as in Nos. 18 through 23.

STANDARD PRACTICE INSTRUCTION—1945 CONFORMING TO S.A.E. STANDARD FEDERAL-MOGUL CORP., DETROIT, MICH.

Fig. 3. Another service instruction card, 14 x 18 in., issued by Federal-Mogul on standard bearing replacement procedure

Standardized Service Instructions

(Continued from page 64)

rebuilding of these units. But how can any fleet operator possibly bring this material together, cull out what is worthwhile and really make it available to his men doing the work?

Can we work toward uniformity and develop maintenance instructions which will be pictorial studies of maintenance operations, laid out in correct sequence so that they will be an aid to mechanics and to mechanic training?

Standard Practice Instructions

CONSIDERATION of this problem led to organizing an SAE-ODT committee to study the matter which was known as SAE-ODT Project No. 17—Standard Practice Instructions.

As a starting point, the project committee proposed standardization of maintenance instructions on single-sheet cards size 14 x 18 in. This size is large enough to lend itself to large, clear illustrations and the use of large type, yet it is not so large as to be clumsy to handle or refer to, or file, and it cuts well from light card stock.

It was further proposed that, in general, the instruction card would cover two important phases of maintenance:

1. *Tell and Show How to Diagnose and Adjust*—Running maintenance includes the work of testing, diagnosing, and adjusting. It does not ordinarily require the use of new parts, with the possible exception of gaskets, cotter pins, and the like.

2. *Tell and Show How to Repair and Rebuild the Various Units*—Normal wear ultimately will require repair, overhaul, and replacement of parts. In doing this work, it is essential that clearances, fittings and permissible wear tolerances be presented, as well as step by step procedures for disassembly, reassembly, adjustment and testing.

Specifications of Cards

IT IS essential that a single standard size of card be used. Only in this way can instructions prepared by various manufacturers be brought together as desired in a common file.

The committee decided that a 14 x 18 card be made an SAE Standard for Maintenance Instructions, and submitted the following specifications:

1. Size: 14 x 18 in.

2. Material: A high-grade white tag stock at least equal to "WITAG" made by Linton Bros., Fitchburg, Mass., which product runs 111 lb. per 500 sheets 22½ x 28½ in.

3. Minimum size of type: for use in any text to be not less than 12 point.

4. Greaseproof treatment: Instruction cards are to be treated with lacquer or other suitable finish so as to withstand and accommodate themselves to handling by mechanics' greasy hands, and so that grease can be readily wiped off without impairment of the cards.

Indexing and Filing Instructions

THE committee reviewed and approved a plan for indexing and filing Standard Practice Instructions. This is presented in Fig. 1, and is outlined with two types of application in mind:

1. A file suitable for any vehicle manufacturer with branches or large service departments.

2. A file suitable for the typical fleet operator.

In the case of a large manufacturer of a complete line of light and heavy trucks, he would need a complete file on the various models of vehicles which he manufactures, and, therefore, he might elect to introduce supplementary "model guide cards" to meet his own particular problem.

In the case of the operator, his fleet is usually composed of a few makes of vehicles, and the instructions he would need would only be those applying to these particular vehicles.

However, in all cases the primary elements of the proposed indexing and filing system would apply. (See Fig. 1 for details.)

Vehicle Guide and Index Cards

VEHICLE Guide and Index Cards would carry the manufacturer's name on the tab, and would carry the following numbered index headings across the top of the card. These headings conform with good practice as found in maintenance manuals.

1. Axle Front
2. Axle Rear
3. Body and Cab
4. Brakes
5. Clutch
6. Cooling System
7. Electrical System
8. Engine
9. Frame Springs
10. Fuel System
11. Lubrication
12. Steering
13. Tran. Power Take Off
14. Propeller Shafts
15. Wheels, Hubs, Bearings
16. Winch—General

More complete details of the proposed indexing and filing can be found in the SAE handbook under Section VII, Transportation Maintenance Standards.

Parts and Accessories Guide Card

THE Parts and Accessories Guide Card would carry the same 16 index headings as the Vehicle Guide Card.

Standard Practice Instructions prepared for direct distribution by parts and accessory manufacturers would be filed according to index number back of the main guide card "Parts and Accessories." However, if the instruction applied to some particular vehicle or group of trucks, it would be filed back of the vehicle guide card.

If the instruction is distributed indirectly through some vehicle manufacturer and applies specifically to the latter's product, then it should be filed in its index block position back of the vehicle manufacturer's guide card.

(TURN TO PAGE 69, PLEASE)

Standardized Service Instructions . . .

(Continued from page 66)

Tools Guide Card

THE Tools Guide Card would carry the same 16 index headings as used on the Vehicle Guide Card.

Standard Practice Instructions on the use, adjustment, and care of maintenance tools would carry an index block number at the top of the instruction which should tie in with the purpose of the tool, and would be filed back of the General Guide Card "Tools."

Thus a valve refacing machine is an engine tool and would be indexed with a No. 8 block. Supplementary identification at the top of the card could include the name of the article and the manufacturer. Thus: Hall Valve Refacing Machine.

SAE Standards

THE General Standards Committee of the Society of Automotive Engineers has voted that the foregoing specifications be accepted so that now there is established an approved SAE standard size card and a standard filing system affording a sound base on which manufacturers can proceed. (See Transportation & Maintenance Standards, SAE Handbook.)

Duplication Largely Avoided

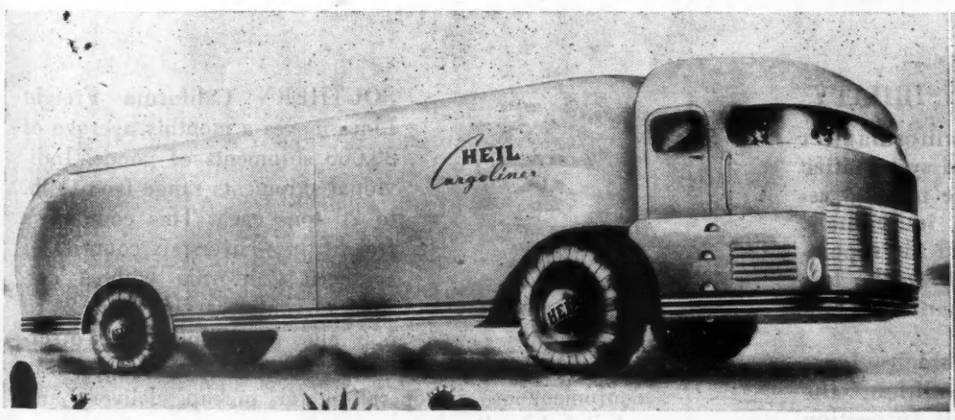
AT PRESENT, most vehicle manufacturers prepare complete maintenance manuals covering both the units they build and those they buy. This means considerable duplication of effort on the part of vehicle manufacturers in the preparation of instructions pertaining to those units and assemblies which all purchase.

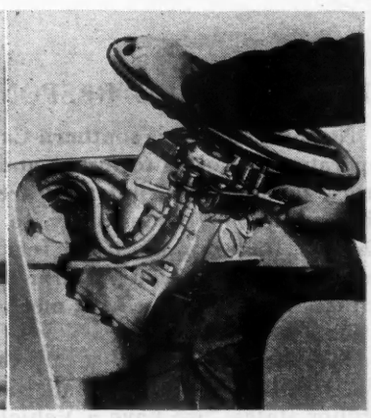
It was the thought of the committee that by means of Standard Practice Instruction cards this duplication could be avoided and a far better job could be done if the various unit instructions were developed by the manufacturers of the units. They designed and built the units originally. They have followed their products in service, and they should know more than any one else what clearances, fittings, and adjustments must be observed, what wear tolerances are permissible, and what special tools and shop tricks will facilitate repairs.

When a parts manufacturer has once prepared a complete instruction card, then it would be available to every manufacturer using the item. All would use the identical instruction, and none would be obliged to prepare his own version. This should avoid much confusion and duplication of effort, and leave to most vehicle manufacturers only the preparation of instructions such as "engine tune-up," "vehicle lubrication," etc.

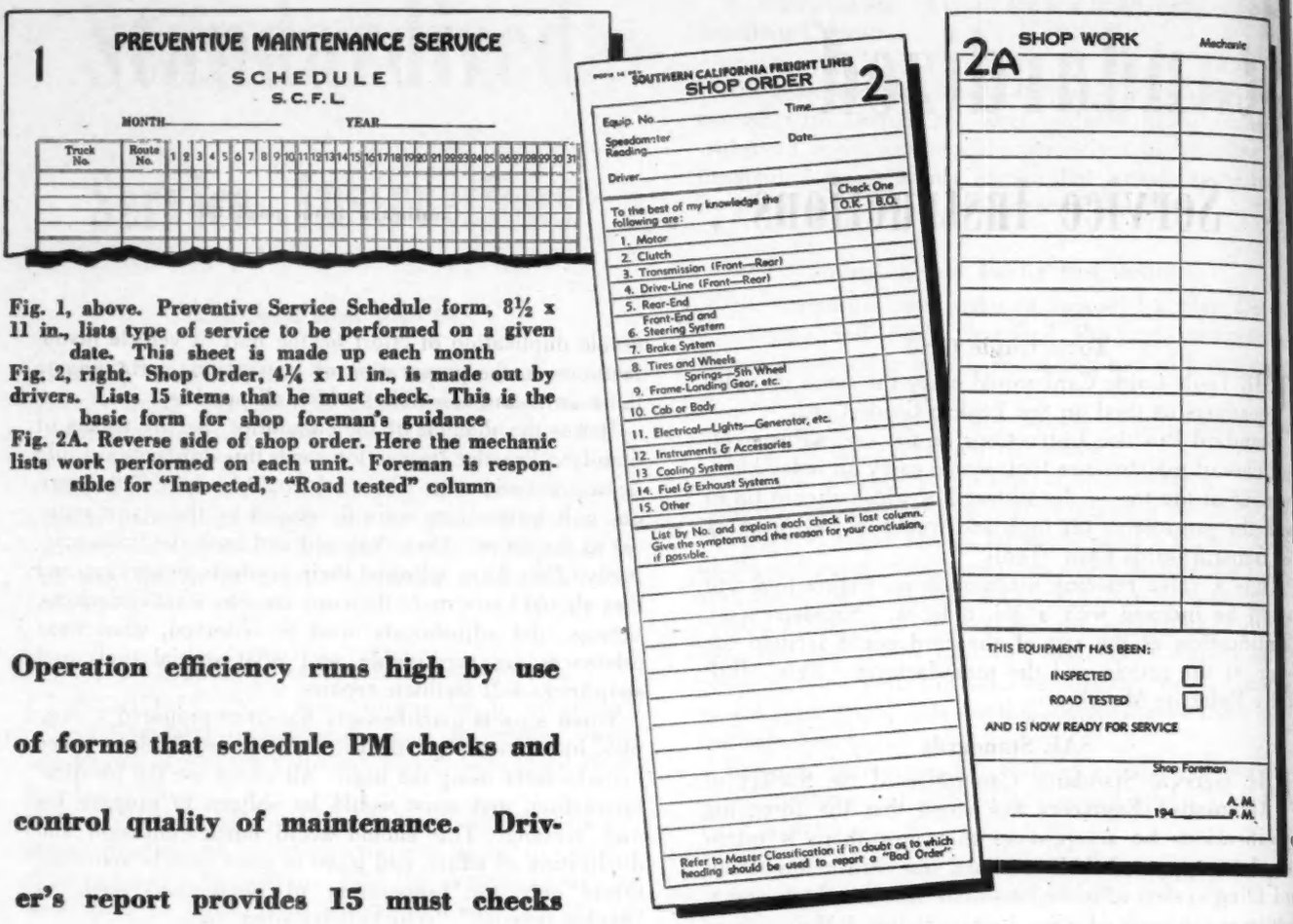
Manufacturers of maintenance tools would issue instructions on the correct use of their products and how to maintain them so that they would do first-class work whenever used. These should be available for reference and would be drawn and referred to by mechanics as various maintenance jobs are assigned to them.

HEIL'S HYDRO-STEER—FINGERTIP STEERING FOR HEAVY-DUTY OFF-THE-ROAD TRUCKS





Suggested application for the new Heil Hydro Steer is on proposed off-the-road haulers such as the artist's creation here. Unit measures 50 ft. long by 12 ft. wide by 16 ft. high. Carries a landing wheel up front to make a tricycle gear for the tractor. Entire load is carried on four wheels for easy desert travel; is steered hydraulically through a rigid fifth wheel and cannot jacknife. The steering mechanism shown at the right controls hydraulic pressure upon individual wheel cylinders in the new Heil Hydro Steer unit for easy steering of heavy equipment. The steering wheel controls hydraulic pressure upon individual wheel cylinders. When the wheel is turned to the right, the pump forces oil into the left-hand cylinder, causing right-hand steering movement. For a left-hand turn, the pressure is on the right-hand cylinder. Metering pump gives a constant ratio between steering wheel movement and front wheel movement. Practical applications of the unit include its use on earth-moving wagons, scrapers, graders and other construction equipment, as well as on rear-steer units, such as fire engine ladder trucks and on boats



1

PREVENTIVE MAINTENANCE SERVICE

SCHEDULE

S. C. F. L.

MONTH_____ YEAR_____

Truck No.	Route No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

SOUTHERN CALIFORNIA FREIGHT LINES

SHOP ORDER 2

Equip. No._____ Time_____

Speedometer Reading_____ Date_____

Driver_____

To the best of my knowledge the following are:	Check One O.K.	B.O.
1. Motor		
2. Clutch		
3. Transmission (Front—Rear)		
4. Drive-Line (Front—Rear)		
5. Rear-End		
6. Front-End and Steering System		
7. Brake System		
8. Tires and Wheels		
9. Frame-Landing Gear, Springs—5th Wheel, etc.		
10. Cab or Body		
11. Electrical—Lights—Generator, etc.		
12. Instruments & Accessories		
13. Cooling System		
14. Fuel & Exhaust Systems		
15. Other		

List by No. and explain each check in last column. Give the symptoms and the reason for your conclusion, if possible.

Refer to Master Classification if in doubt as to which heading should be used to report a "Bad Order".

2A

SHOP WORK Mechanic

THIS EQUIPMENT HAS BEEN:

INSPECTED ☐

ROAD TESTED ☐

AND IS NOW READY FOR SERVICE

Shop Foreman

_____ 194_____ A.M. P.M.

Fig. 1, above. Preventive Service Schedule form, 8½ x 11 in., lists type of service to be performed on a given date. This sheet is made up each month

Fig. 2, right. Shop Order, 4¼ x 11 in., is made out by drivers. Lists 15 items that he must check. This is the basic form for shop foreman's guidance

Fig. 2A. Reverse side of shop order. Here the mechanic lists work performed on each unit. Foreman is responsible for "Inspected," "Road tested" column

Operation efficiency runs high by use of forms that schedule PM checks and control quality of maintenance. Driver's report provides 15 must checks

by **ED KEURBIS** Assistant to the President,

Dozen Forms Keep Diesels

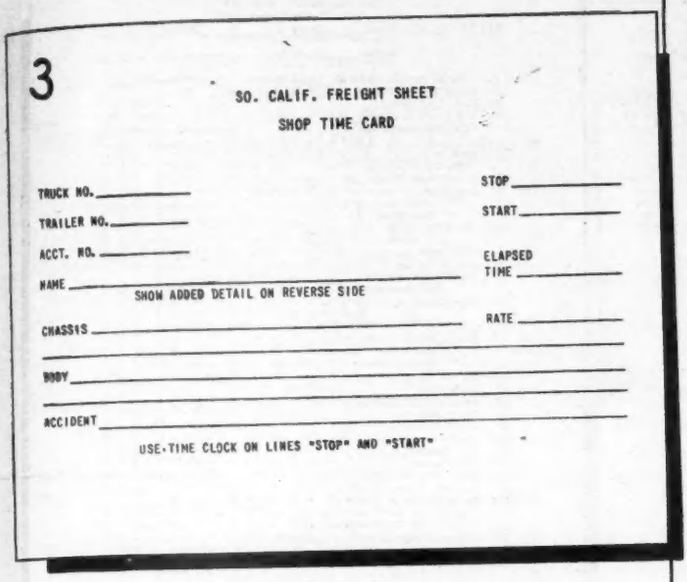
FORMS INSURE RESPONSIBILITY

Not only does this southern California fleet operator use forms to insure and systematize truck maintenance, but they are used to assign personal responsibility to individuals. Drivers, for example, use a form for reporting vehicle condition on arrival at the terminal. As a double check, mechanics use another form.

"To make certain that all vehicles leave the terminal in proper road condition," the author states, "we have a Vehicle Inspection Report that records the results of each vehicle inspection as soon as possible after its arrival. The form lists 35 items, such as condition of rear mirrors, horn, lights, tail gates, fire extinguishers, flares, trailer connections, drive chains, steering, brakes, tires, etc. The mechanic making the inspection must sign the form and turn it in to the shop foreman."

SOUTHERN California Freight Lines moves a monthly average of 80,000 shipments of goods. Individual shipments range from 1 lb. to 20 tons each. This company's freight lines covers six counties of southern California with a network of routes varying from 24 to 356 miles per round trip. To service this territory approximately 400 pieces of rolling equipment are in operation for pickup, delivery and scheduled hauling.

The backbone of the highway equipment is a fleet of 130 full-automatic semi-trailers using converter gears in trains operating on a highly efficient "shuttle" of two to three trailers per tractor. On one special 4-mile hauling job, one tractor has worked with as many as six semis. Many emergency jobs crop up to further strain the power equipment. One such was the hauling of 7,500,000 lb.


3

SO. CALIF. FREIGHT SHEET

SHOP TIME CARD

TRUCK NO. _____ STOP _____

TRAILER NO. _____ START _____

ACCT. NO. _____ ELAPSED TIME _____

NAME _____

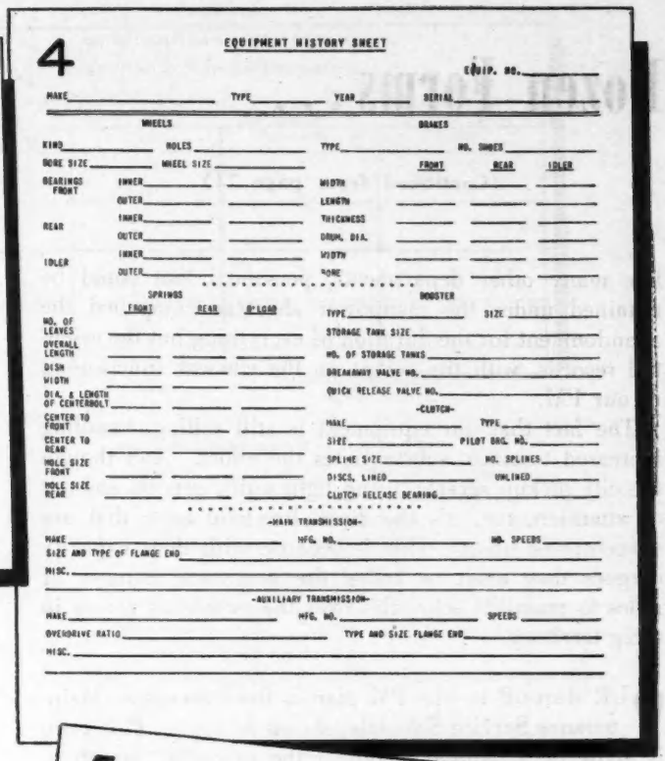
SHOW ADDED DETAIL ON REVERSE SIDE

CHASSIS _____ RATE _____

BODY _____

ACCIDENT _____

USE TIME CLOCK ON LINES "STOP" AND "START"


4

EQUIPMENT HISTORY SHEET

EQUIP. NO. _____

MAKE _____ TYPE _____ YEAR _____ SERIAL _____

WHEELS

KIND _____ HOLES _____

BORE SIZE _____ WHEEL SIZE _____

BEARINGS FRONT INNER _____ OUTER _____

REAR INNER _____ OUTER _____

IDLER INNER _____ OUTER _____

BRAKES

TYPE _____ NO. SHOES _____

	FRONT	REAR	IDLER
WIDTH			
LENGTH			
THICKNESS			
DRUM, DIA.			
WIDTH			
BORE			

SPRINGS

	FRONT	REAR	5th LOAD
NO. OF LEAVES			
OVERALL LENGTH			
DISH			
WIDTH			
DIA. & LENGTH OF CENTERBOLT			
CENTER TO FRONT			
CENTER TO REAR			
HOLE SIZE FRONT			
HOLE SIZE REAR			

BOOSTER

TYPE _____ SIZE _____

STORAGE TANK SIZE _____

NO. OF STORAGE TANKS _____

BREAKAWAY VALVE NO. _____

QUICK RELEASE VALVE NO. _____

-CLUTCH-

MAKE _____ TYPE _____

SIZE _____ PILOT BRG. NO. _____

SPLINE SIZE _____ NO. SPLINES _____

DISCS, LINED _____ UNLINED _____

CLUTCH RELEASE BEARING _____

-MAIN TRANSMISSION-

MAKE _____ MFG. NO. _____ NO. SPEEDS _____

SIZE AND TYPE OF FLANGE END _____

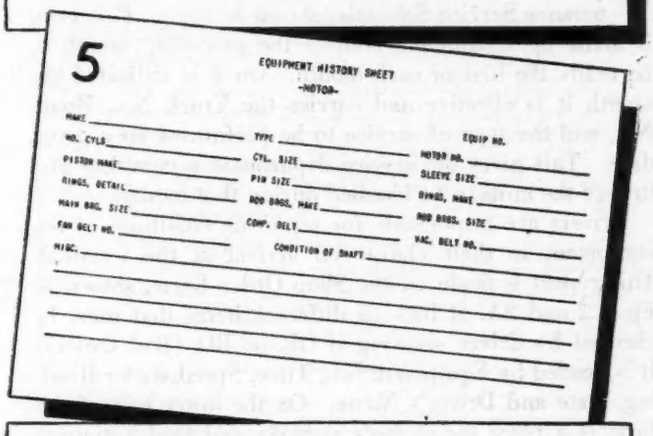
MISC. _____

-AUXILIARY TRANSMISSION-

MAKE _____ MFG. NO. _____ SPEEDS _____

OVERDRIVE RATIO _____ TYPE AND SIZE FLANGE END _____

MISC. _____


5

EQUIPMENT HISTORY SHEET

-MOTOR-

MAKE _____ TYPE _____ EQUIP NO. _____

NO. CYLS _____ CYL. SIZE _____ MOTOR NO. _____

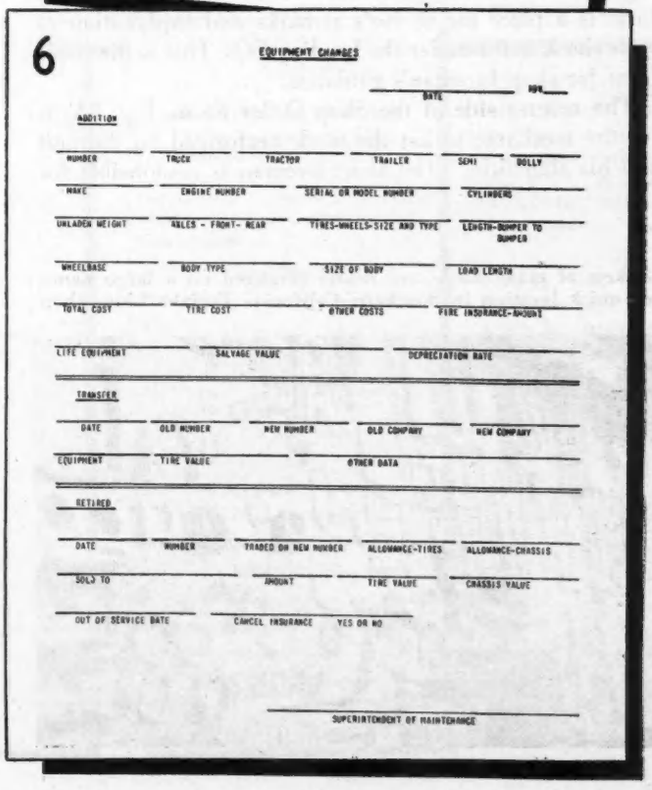
PISTON MAKE _____ PIN SIZE _____ SLEEVE SIZE _____

RINGS, DETAIL _____ ROD BRGS. MAKE _____ RINGS, MAKE _____

MAIN BRG. SIZE _____ COMP. BELT _____ ROD BRGS. SIZE _____

FAN BELT NO. _____ CONDITION OF SHAFT _____ VAC. BELT NO. _____

MISC. _____


6

EQUIPMENT CHANGES

DATE _____ MPH _____

ADDITION

NUMBER _____ TRUCK _____ TRACTOR _____ TRAILER _____ SEMI _____ DOLLY _____

MAKE _____ ENGINE NUMBER _____ SERIAL OR MODEL NUMBER _____ CYLINDERS _____

UNLADEN WEIGHT _____ AXLES - FRONT - REAR _____ TIRES-WHEELS-SIZE AND TYPE _____ LENGTH-BUMPER TO BUMPER _____

WHEELBASE _____ BODY TYPE _____ SIZE OF BODY _____ LOAD LENGTH _____

TOTAL COST _____ TIRE COST _____ OTHER COSTS _____ FIRE INSURANCE-AMOUNT _____

LIFE EQUIPMENT _____ SALVAGE VALUE _____ DEPRECIATION RATE _____

TRANSFER

DATE _____ OLD NUMBER _____ NEW NUMBER _____ OLD COMPANY _____ NEW COMPANY _____

EQUIPMENT _____ TIRE VALUE _____ OTHER DATA _____

RETIRED

DATE _____ NUMBER _____ TRADED ON NEW NUMBER _____ ALLOWANCE-TIRES _____ ALLOWANCE-CHASSIS _____

SOLD TO _____ AMOUNT _____ TIRE VALUE _____ CHASSIS VALUE _____

OUT OF SERVICE DATE _____ CANCEL INSURANCE YES OR NO _____

SUPERINTENDENT OF MAINTENANCE _____

Fig. 3, above. Shop Time Card, 8½ x 6½ in., indicates the service time and type of work done on each vehicle. Fig. 4, right. Equipment History Sheet, 8½ x 10 in., and the History Sheet—Motor, center, Fig. 5, 8½ x 5½ in. These forms carry details of vehicles as purchased and when major changes are made. Modifications are transferred to Equipment Change sheet, Fig. 6, 8½ x 11 in., which makes up part of vehicle's permanent history

Southern California Freight Lines, Los Angeles, Cal.

in Top Form

of Army goods in four days to four different points, averaging 100 miles per round trip using only six tractors to spot and move 20 semis.

Southern-Cal.'s fleet includes 66 tractors, 130 semi-trailers, and 204 trucks of various sizes used in local pickup service. The heavy line equipment is made up of diesel tractors and 35-ft. semi-trailers or tractor and two 22-ft. semis with converter gears.

THE mechanical department has a complete PM schedule in smooth working order, it having been established in 1937. At its inception, and until affected by the manpower shortage, it was planned and recorded in such a way that the complete history of any unit could be obtained almost instantly. But it required elaborate paper work and when the proper help in office could be obtained, it was a comparatively simple matter to keep the fleet history up to the minute for prompt use. However,

(TURN TO NEXT PAGE, PLEASE)

Dozen Forms . . .

(Continued from page 71)

like many other departments, personnel that could be obtained under the manpower shortage compelled the abandonment for the duration of everything but the essential records, with the accent on the efficient functioning of our PM.

The fact that our equipment is still rolling, handling increased tonnage, substantiates the effort. And though the city pickup service, using light units, gets its amount of attention, too, it's the diesel line-haul units that are concentrated upon. This is because with their capacity cargoes they must be rolled the maximum number of miles to maintain schedules over the numerous routes in a big territory.

OUR start-off in our PM plan is the Preventive Maintenance Service Schedule, shown in Fig. 1. This form is made up around the 20th of the preceding month to be ready the first of each month. On it is indicated the month it is effective and carries the Truck No., Route No., and the type of service to be performed on a given date. This gives the service department a complete picture of the units to be handled during that month.

Drivers are responsible for reporting condition of the equipment in their charge on arrival at the terminal. This report is made on the Shop Order Form, shown in Figs. 2 and 2A. It lists 15 different items that must be checked by driver showing if OK or BO (Bad Order). It is headed by Equipment No., Time, Speedometer Reading, Date and Driver's Name. On the lower half of the form is a place for driver's remarks and explanation of each check mark under the heading BO. This is the basic form for shop foreman's guidance.

The reverse side of the Shop Order Form, Fig. 2A, is for the mechanic to list the work performed on the unit and his signature. The shop foreman is responsible for completion of the form by indicating "Inspected" or "Road Tested" and "Ready for Service" by checking in proper places and adding his signature for the record. The mechanic also makes out a ticket, Shop Time Card shown in Fig. 3, for each vehicle worked on, and indicates the time thereon by punching "Start" and "Stop" at time clock. The Shop Order Form is filed for permanent office record and at some time will be entered in Fleet History Record for reference. (This Fleet History has been temporarily abandoned for the duration due to manpower shortage.)

(TURN TO PAGE 74, PLEASE)

SOUTHERN CALIFORNIA FREIGHT LINES
VEHICLE INSPECTION REPORT

Unit No. _____ Owner _____ Date _____

Driver _____

		(Check One)	
1.	Type of Service-General ___ Explosives ___ Inflammables ___		
2.	Body-Flat ___ Stake ___ Solid Sides ___ Van ___		
3.	Loaded ___ Empty ___		
4.	Chauffer's License	(Yes)	(No)
5.	Rear View Mirror-Left	( )	( )
	" " Right	( )	( )
6.	Horn	( )	( )
7.	Windshield Wipers	( )	( )
8.	Directional Signal Arm	( )	( )
9.	Lights-Head	( )	( )
	" Tail	( )	( )
	" Clearance	( )	( )
10.	Reflectors-Rear	( )	( )
	" Side	( )	( )
11.	Tail Gates	( )	( )
12.	Static Chains	( )	( )
13.	Signs-Explosive	( )	( )
	" Inflammable	( )	( )
14.	Fire Extinguisher-CO2	( )	( )
	" " Foamite	( )	( )
	" " Pyrene	( )	( )
15.	Flares-Pot	( )	( )
	" Electric	( )	( )
	" Reflectors	( )	( )
16.	Fuses	( )	( )
17.	Flags	( )	( )
18.	Red Flags in Front	( )	( )
19.	Spare Bulbs	( )	( )
20.	Spare Fuses	( )	( )
21.	Chocks	( )	( )
22.	Load Secured	( )	( )
23.	Load Tarped	( )	( )
24.	Brake Hose Connections OK	( )	( )
25.	Trailer Connection OK	( )	( )
26.	Drive Chains or Shaft OK	( )	( )
27.	Tractor 5th Wheel Assembly OK	( )	( )
28.	Trailer 5th Wheel Assembly OK	( )	( )
29.	Undercarriage free of oil, grease, dirt	( )	( )
30.	Steering OK	( )	( )
31.	Brakes OK-Emergency	( )	( )
	" " Foot	( )	( )
	" " Truck-Trailer	( )	( )
32.	Exhaust System OK	( )	( )
33.	Motor-Good ___ Fair ___ Poor ___		
34.	Body- Good ___ Fair ___ Poor ___		
35.	Tires-Good ___ Fair ___ Poor ___		

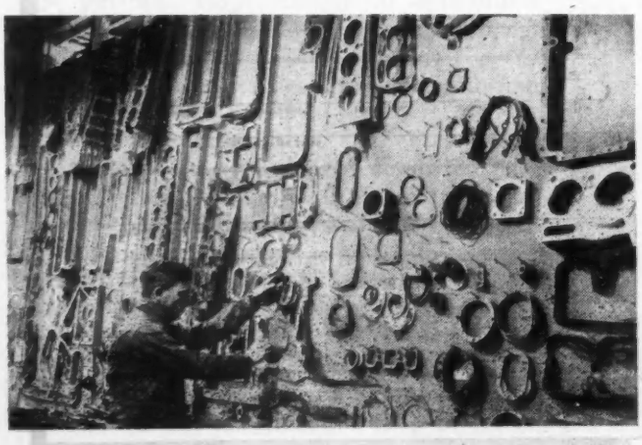
Remarks _____

Inspected by _____

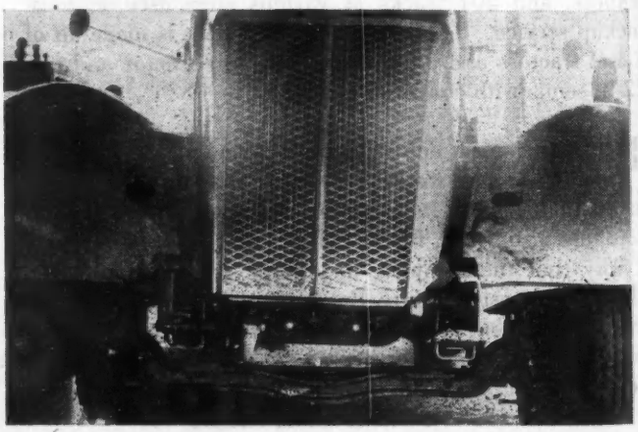
ITEMS CHECKED "NO" OR "POOR" MUST BE CORRECTED IMMEDIATELY

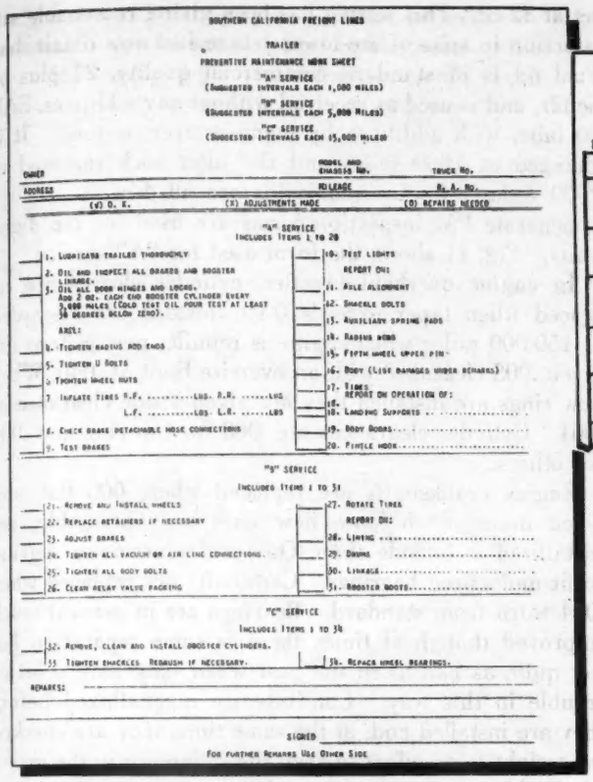
Fig. 7. Vehicle Inspection Report, 8½ x 11-in. form for recording results of vehicle inspections after their arrival at shop. Mechanics inspect all 35 items and turn the sheet in to the shop foreman

Gaskets of many kinds are neatly arranged on a large panel for quick location in Southern California Freight Lines shop



Below. The front end of this truck has been widened for the mounting of a heavy duty diesel engine in place of smaller unit





SOUTHERN CALIFORNIA FREIGHT LINES

TRAILER
PREVENTIVE MAINTENANCE WORK SHEET

"A" SERVICE
(Suggested intervals each 1,000 miles)
"B" SERVICE
(Suggested intervals each 5,000 miles)
"C" SERVICE
(Suggested intervals each 15,000 miles)

OWNER — Model and Chassis No. — Truck No.
ADDRESS — Mileage — Re. A. No.

(√) O. K. (X) ADJUSTMENTS MADE (O) REPAIRS NEEDED

"A" SERVICE
Includes Items 1 to 20

1. Lubricate trailer thoroughly
2. Oil and inspect all brakes and booster linkage.
3. Oil all door hinges and locks. Add 2 oz. each end booster cylinder every 5,000 miles (Cold test oil pour test at least 30 degrees below zero).
Axel:
4. Tighten radius rod ends
5. Tighten U bolts
6. Tighten wheel nuts
7. Inflate tires R.F. .....Lbs. R.R. .....Lbs. L.F. .....Lbs. L.R. .....Lbs.
8. Check brake detachable hose connections
9. Test brakes
10. Test lights
Report on:
11. Axle alignment
12. Shackle bolts
13. Auxiliary spring pads
14. Radius rods
15. Fifth wheel upper pin
16. Body (List damages under remarks)
17. Tires
Report on operation of:
18.
19. Landing supports
19. Body bolts
20. Pintle hook

"B" SERVICE
Includes Items 1 to 31

21. Remove and install wheels
22. Replace retainers if necessary
23. Adjust brakes
24. Tighten all vacuum or air line connections
25. Tighten all body bolts
26. Clean relay valve packing
27. Rotate Tires
Report on:
28. Linings
29. Drums
30. Linkage
31. Booster boots

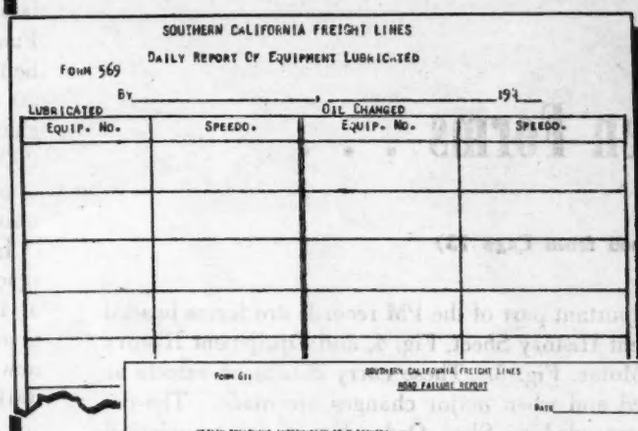
"C" SERVICE
Includes Items 1 to 36

32. Remove, clean and install booster cylinders.
33. Tighten shackles. Rebush if necessary.
34. Repack wheel bearings.

REMARKS:

SIGNED

For further remarks use other side

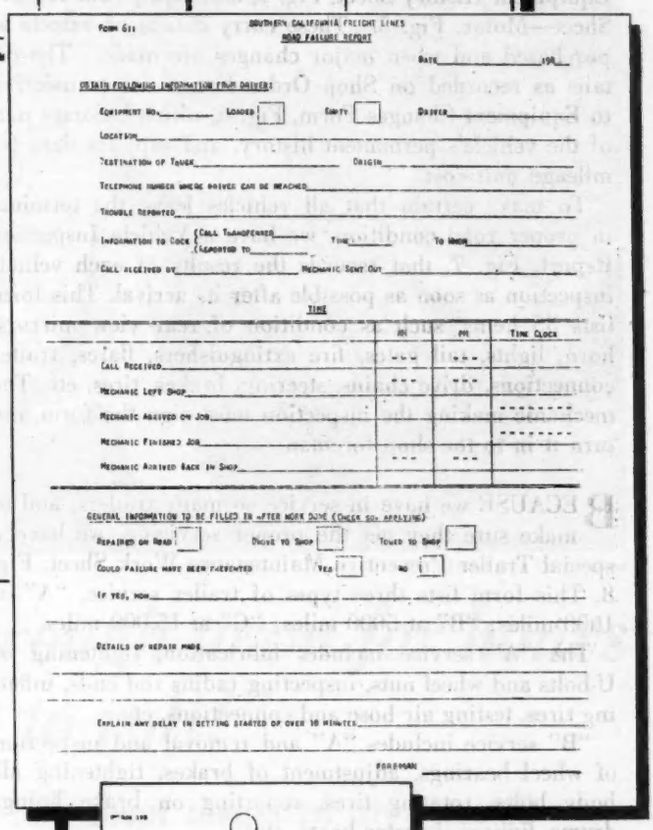


SOUTHERN CALIFORNIA FREIGHT LINES
DAILY REPORT OF EQUIPMENT LUBRICATED

FORM 569

By _____, _____ 194__

LUBRICATED		OIL CHANGED	
EQUIP. NO.	SPEEDO.	EQUIP. NO.	SPEEDO.



FORM 611 — SOUTHERN CALIFORNIA FREIGHT LINES
ROAD FAILURE REPORT

Date _____ 194__

OBTAIN FOLLOWING INFORMATION FROM DRIVER:

Equipment No. _____ Loaded ☐ Empty ☐ Driver _____
Location _____
Destination of Truck _____ Origin _____
Telephone number where driver can be reached _____
Trouble reported _____
Information to Cock {Call Transferred _____ Time _____ To Whom _____ / Reported to _____
Call received by _____ Mechanic Sent Out _____

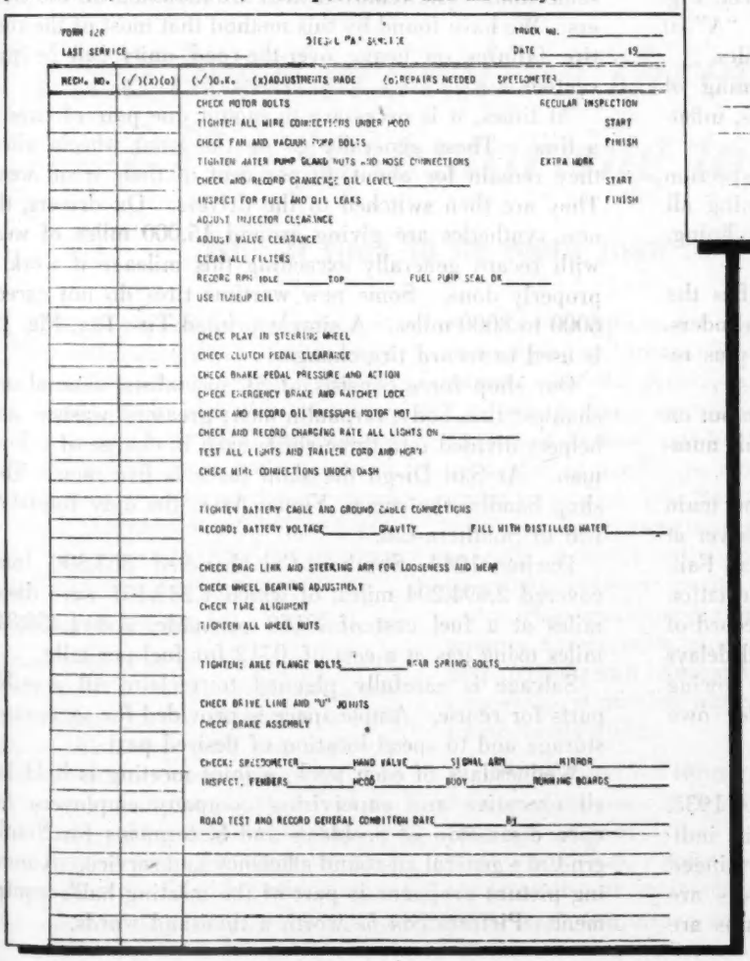
TIME

	AM	PM	Time Clock
Call Received	---	---	
Mechanic Left Shop	---	---	
Mechanic Arrived on Job			--------
Mechanic Finished Job			--------
Mechanic Arrived Back in Shop	---	---	

GENERAL INFORMATION TO BE FILLED IN AFTER WORK DONE (CHECK SQ. APPLYING)

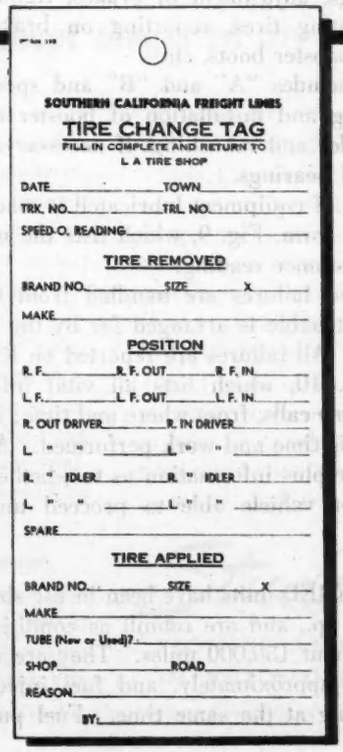
Repaired on Road ☐ Driven to Shop ☐ Towed to Shop ☐
Could failure have been prevented Yes ☐ No ☐
If yes, how _____
Details of repair made _____
Explain any delay in getting started of over 10 minutes _____
Foreman _____

Fig. 8, above. Special Trailer Preventive Maintenance Work Sheet, 8½ x 11 in., lists three types of service. Fig. 9, upper right. Daily Report of Equipment Lubrication, 5 x 7 in., lists unit number and mileage of service. Fig. 10, center right. Road Failure Report, 8½ x 11-in. sheet for reporting all major road trouble. Form lists phone calls, service time, work performed and all delays



FORM 62R — DIESEL "A" SERVICE — TRUCK NO. _____
LAST SERVICE _____ DATE _____ 19__

MECH. NO.	(√)(X)(O)	(√)O.K. (X)ADJUSTMENTS MADE (O)REPAIRS NEEDED — SPEEDOMETER _____
		CHECK MOTOR BOLTS — REGULAR INSPECTION
		TIGHTEN ALL WIRE CONNECTIONS UNDER HOOD — START
		CHECK FAN AND VACUUM PUMP BOLTS — FINISH
		TIGHTEN WATER PUMP GLAND NUTS AND HOSE CONNECTIONS — EXTRA WORK
		CHECK AND RECORD CRANKCASE OIL LEVEL _____ — START
		INSPECT FOR FUEL AND OIL LEAKS — FINISH
		ADJUST INJECTOR CLEARANCE
		ADJUST VALVE CLEARANCE
		CLEAN ALL FILTERS
		RECORD RPM IDLE _____ TOP _____ FUEL PUMP SEAL OK _____
		USE TUNE-UP OIL
		CHECK PLAY IN STEERING WHEEL
		CHECK CLUTCH PEDAL CLEARANCE
		CHECK BRAKE PEDAL PRESSURE AND ACTION
		CHECK EMERGENCY BRAKE AND RATCHET LOCK
		CHECK AND RECORD OIL PRESSURE MOTOR HOT _____
		CHECK AND RECORD CHARGING RATE ALL LIGHTS ON _____
		TEST ALL LIGHTS AND TRAILER CORD AND HORN
		CHECK WIRE CONNECTIONS UNDER DASH
		TIGHTEN BATTERY CABLE AND GROUND CABLE CONNECTIONS
		RECORD: BATTERY VOLTAGE _____ GRAVITY _____ FILL WITH DISTILLED WATER _____
		CHECK DRAG LINK AND STEERING ARM FOR LOOSENESS AND WEAR
		CHECK WHEEL BEARING ADJUSTMENT
		CHECK TIRE ALIGNMENT
		TIGHTEN ALL WHEEL NUTS
		TIGHTEN: AXLE FLANGE BOLTS _____ REAR SPRING BOLTS _____
		CHECK DRIVE LINE AND "U" JOINTS
		CHECK BRAKE ASSEMBLY
		CHECK: SPEEDOMETER _____ HAND VALVE _____ SIGNAL ARM _____ MIRROR _____
		INSPECT: FENDERS _____ HOOD _____ BODY _____ RUNNING BOARDS _____
		ROAD TEST AND RECORD GENERAL CONDITION DATE _____ By _____



SOUTHERN CALIFORNIA FREIGHT LINES

TIRE CHANGE TAG

FILL IN COMPLETE AND RETURN TO L A TIRE SHOP

DATE _____ TOWN _____
TRK. NO. _____ TRL. NO. _____
SPEED-O. READING _____

TIRE REMOVED

BRAND NO. _____ SIZE _____ X _____
MAKE _____

POSITION

R. F. _____ R. F. OUT _____ R. F. IN _____
L. F. _____ L. F. OUT _____ L. F. IN _____
R. OUT DRIVER _____ R. IN DRIVER _____
L. " " _____ L. " " _____
R. " IDLER _____ R. " IDLER _____
L. " " _____ L. " " _____
SPARE _____

TIRE APPLIED

BRAND NO. _____ SIZE _____ X _____
MAKE _____
TUBE (New or Used)? _____
SHOP _____ ROAD _____
REASON _____
BY: _____

Fig. 11, extreme left. Diesel "A" Service, a separate inspection sheet, 8½ x 11 in., for recording maintenance

Fig. 12, left. Tire Change Tag, 3½ x 8½ in., provides simple form for recording tire changes

Dozen Forms . . .

(Continued from Page 73)

An important part of the PM records are forms headed Equipment History Sheet, Fig. 4, and Equipment History Sheet—Motor, Fig. 5. These carry details of vehicle as purchased and when major changes are made. The details as recorded on Shop Order Forms are transferred to Equipment Changes Form, Fig. 6, which becomes part of the vehicle's permanent history, and supplies data for mileage unit cost.

To make certain that all vehicles leave the terminal in proper road condition, we have a Vehicle Inspection Report, Fig. 7, that records the results of each vehicle inspection as soon as possible after its arrival. This form lists 35 items, such as condition of rear view mirrors, horn, lights, tail gates, fire extinguishers, flares, trailer connections, drive chains, steering, brakes, tires, etc. The mechanic making the inspection must sign the form and turn it in to the shop foreman.

BECAUSE we have in service so many trailers, and to make sure they get the proper servicing, we have a special Trailer Preventive Maintenance Work Sheet, Fig. 8. This form lists three types of trailer service, "A" at 1000 miles; "B" at 5000 miles; "C" at 15,000 miles.

The "A" service includes lubrication, tightening of U-bolts and wheel nuts, inspecting radius rod ends, inflating tires, testing air hose and connections, etc.

"B" service includes "A" and removal and inspection of wheel bearings, adjustment of brakes, tightening all body bolts, rotating tires, reporting on brake lining, drums, linkage, booster boots, etc.

"C" service includes "A" and "B" and specifies the removal, cleaning and installation of booster cylinders, tightening shackles and rebushing, if necessary, plus repacking of wheel bearings.

A daily report of equipment lubricated is made out on a mimeographed form, Fig. 9, which lists the unit number and the speedomer reading.

All major road failures are handled from the main terminal. Minor trouble is arranged for by the driver at garages enroute. All failures are reported on Road Failure Report, Fig. 10, which lists all vital information including telephone calls, from where and time; record of mechanic sent, his time and work performed. All delays are accounted for plus information as to whether towing was necessary or vehicle able to proceed under own power.

DIESEL-POWERED units have been in use since 1935. All are 150 hp., and are rebuilt as conditions indicate, generally about 150,000 miles. They are re-ringed at 50,000 miles, approximately, and fuel injectors are checked for timing at the same time. Fuel pumps are set at 32 cc. This setting has been giving reasonable satisfaction in spite of the lower cetane fuel now obtainable. Fuel oil is of standard commercial quality, 27 plus or better, and is used as received without any additives. SAE 20 lube, with additives by manufacturer, is used. It is changed at 1000 miles and the filter sock removed at 2000 miles. Engine manifolds are all 4-in.

Separate PM inspection forms are used for the diesel units. Fig. 11 shows the form used for "A" service.

In engine overhaul practice, cylinder sleeves are replaced when taper exceeds 0.10; pistons are discarded at 150,000 miles when engine is rebuilt; new pistons are given .005 clearance with an oversize limit of .040. When new rings are installed they are given a side clearance of .001. Cylinder clearances are .008 for top ring and .006 for others.

Engine crankshafts are replaced when .005 flat, and when necessary because new ones not obtainable, are metallized at outside shop. Our preference is to regrind to fit undersized bearings. Camshafts are replaced when .004 worn from standard. Bearings are in general much improved though at times there is some separation but not quite as bad as in the past when they gave a lot of trouble in this way. Con-rods are magnafluxed before they are installed and, at the same time, they are checked for weight in an effort to keep the difference in the group of six to not more than 2 oz.

TIRES are given close attention by a competent experienced tire man. Every effort is made to keep new tires on the diesel tractors and to change all tires at the same time. The removed tires are mounted on the trailers. We have found by this method that most of the road tire failures on heavy over-the-road units can be prevented.

At times, it is necessary to mount one pair of tires at a time. These generally go on the front wheels where they remain for about 40 per cent of their tread wear. They are then switched to the drivers. On drivers, the new synthetics are giving around 15,000 miles of wear with recaps generally exceeding this mileage if work is properly done. Some new wartime tires do not exceed 6000 to 8000 miles. A simple printed Tire Tag, Fig. 12, is used to record tire changes.

Our shop force consists of 51 specialists, general mechanics; tire, body, tarpaulin men; greasers, washers and helpers divided into three shifts each in charge of a foreman. At San Diego the shop force is five men. This shop handles the run to Yuma, Ariz., the only Interstate run of Southern-Cal.

During 1944, Southern-Cal. handled 363,590 tons, covered 2,694,294 miles, of which 1,235,451 were diesel miles at a fuel cost of .0168 per mile, and 1,458,843 miles using gas at a cost of .0712 for fuel per mile.

Salvage is carefully planned to reclaim all possible parts for re-use. Ample space is provided for segregated storage and to speed location of desired part.

Wednesdays of each week, a joint meeting is held for all executive and supervising company employees for open discussion of problems and betterments for Southern-Cal's general all-round efficiency and service. A moving picture projector is part of the meeting hall's equipment. Pictures *can be* worth a thousand words.

"I've been crawling through town for hours and I'm just starting to roll!"

Isn't it time to do more than talk about congested city streets?

NOW that gasoline and other restrictions have been lifted, more cars, trucks and other vehicles are in operation in our cities.

That's good for local business, of course. But we must not forget that a large share of the success of many a local business depends upon getting shipments in and out of town via the cross country highways.

Private car owners can help

According to a government report, well over half of all traffic is on city streets and in the suburban fringes about the cities. And yet, highway improvements continue to get far more attention than busy streets do.

It isn't alone to the advantage of commercial transportation to have more room provided for vehicle operation in built-up areas. Congestion is an annoying and frequently expensive inconvenience for private car owners.

In many cases, state and federal governments have not been able to go as far as needed to effect urban traffic improvements. But America's millions of car owners, acting individually or concertedly, could campaign effectively for specific remedies.

Resurfacing and proper street maintenance, for example, would be a big help to traffic flow in most municipalities—even if nothing more could be immediately done.

Plans must be long range

As one of the nation's leading manufacturers of motor cars and motor trucks, Studebaker constantly makes every endeavor to increase the efficiency of the vehicles with which it helps serve the public.

In fact, the very elasticity with which the automotive industry can adapt its programs to changing conditions is one reason why cars and trucks are usually more nearly abreast of technical progress than most of the streets and highways on which they roll.

It's highly important, therefore, in planning improved traffic facilities, to bear in mind that the need is for programs which are really long-range in scope, and not merely expedient.

Studebaker

PIONEER AND PACEMAKER IN AUTOMOTIVE PROGRESS

For reprints of this advertisement in full color, while the supply lasts, address The Studebaker Corporation, South Bend 27, Indiana, U. S. A.

"Well, waddyuh know . . . This here now mag is jes fulla suggestions for preventif maintenance!"

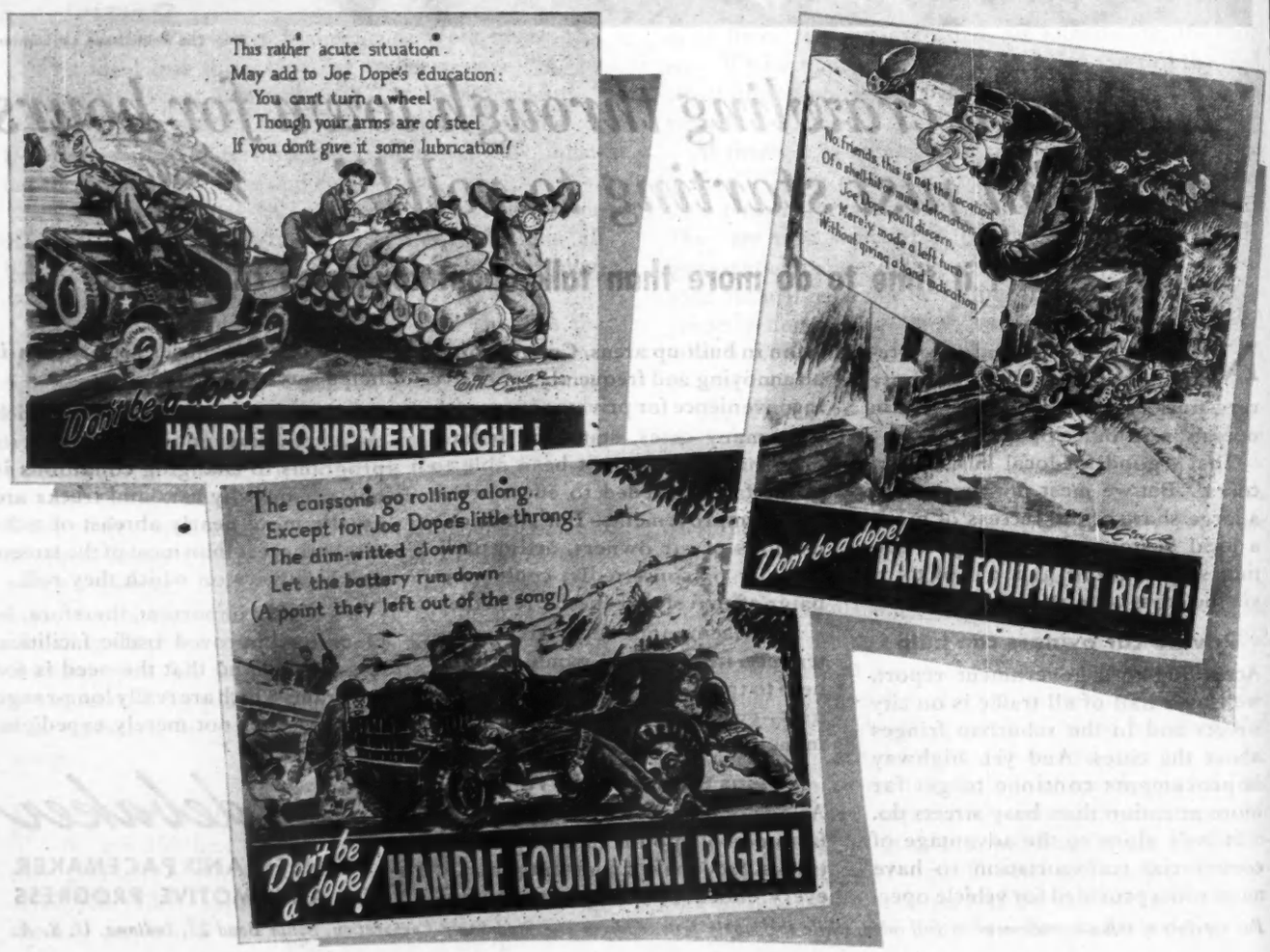
COMMENTS THAT ADD UP TO TRUCK CONSERVATION

Says Joe Dope: "Officers tell me that I fill the need for a symbol which makes the concept of preventative maintenance stick—make it appeal to the soldiers who have to put it into effect."

Says an officer: "There has been no single series of posters arousing the interest and comment that the Joe Dope posters have, and undoubtedly their brand of humor drives home the intended lessons."

Joe Dope Aids Army's Truck C

Comic character portrays malpractices in handling vehicles, effectively makes and ke



Say GIs: "They pick out a man to whom the poster applies, and his name is written on it."

"The men say, 'Ain't it the truth'."

"While it's funny, it make you think."

The 26th Infantry Division: "At the beginning, 3 per cent of the Division's general-purpose vehicles were listed as disabled for four or more days. Eight months later, only one-tenth of one per cent were so listed."

All this certainly adds up to good inspirational material for civilian fleet operators.

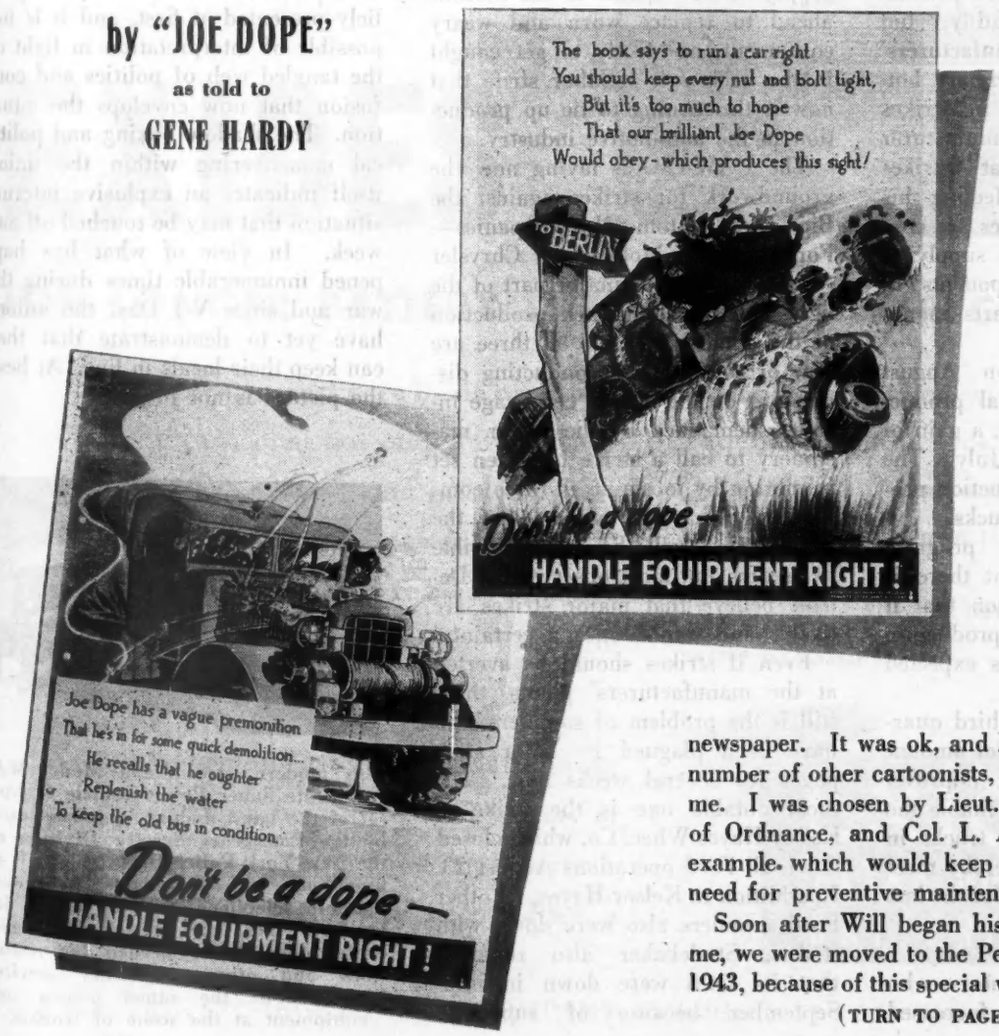
Conservation

keeps drivers alert to need for proper care

by "JOE DOPE"

as told to

GENE HARDY



WELL, well, well! After three years of telling GI's how not to do things, I can finally tell my story to you civilians. I'm "Joe Dope," a good-natured, human sort of guy, but the most stupid, negligent character ever to don khakis.

When I joined up in 1942, I wondered what good I could do in the Army. I soon found out. I was drafted to prevent waste and grew out of the beginnings of the Ordnance Department's preventive maintenance program, as this program developed during the early days of the war.

When this country first entered the war, waste was a big problem. Ordnance field men found that green troops destroyed alarming quantities of material through carelessness, mishandling and negligence. At once, they planned to teach the American soldier the necessity for proper care of his equipment. This was my big job.

Every possible means was used. Operational and training manuals were revised to include pointers on PM, and to make the manuals readable and understandable. Equipment tags carried PM reminders. Through lectures, films and posters and through a system of checks on the handling of equipment, the program was put into operation. I was the feature player in much of this work.

Officers tell me that I fill the need for a symbol which makes the concept of preventive maintenance stick—make it appeal to the soldiers who have to put it into effect. The man who is responsible for my being here is Chief Warrant Officer William Eisner, who in private life is the artist who does the widely syndicated comic strip, "The Spirit." Will is to me as Edgar Bergen is to Charlie McCarthy, and I have just as much trouble drawing my pay.

Will had just emerged from basic training at the Aberdeen Proving Ground Training Center and was taking non-commissioned officer training in Ordnance at Cadre School, when the preventive maintenance program was instituted. He soon began to do a comic strip for the camp newspaper. It was ok, and he was invited, along with a number of other cartoonists, to try his hand at visualizing me. I was chosen by Lieut. Gen. L. H. Campbell, Chief of Ordnance, and Col. L. A. Codd to be the horrible example which would keep Ordnancemen aware of the need for preventive maintenance.

Soon after Will began his series of posters, featuring me, we were moved to the Pentagon Building. In March, 1943, because of this special work, Will was commissioned

(TURN TO PAGE 120, PLEASE)

Labor Trouble Darkens Truck Production Picture

Reports from Washington and Detroit indicate production plans for rest of year may not be realized if conditions persist

WASHINGTON — Truck production is increasing steadily, but slowly, according to manufacturers' reports to WPB. The primary bottleneck is to be found in strikes among suppliers. One manufacturer reported that 15 "wildcat" strikes among suppliers were affecting his output. Most of the strikes are concentrated in small plants supplying castings and other components to axle-makers and other parts manufacturers.

Preliminary reports on August production indicate a total production of about 27,500 units, a gain of approximately 6000 over July. The August civilian truck production program called for 40,000 trucks.

The September truck program calls for 56,000 units, but there is not the slightest expectation that it will be reached. Actual production in September, however, is expected to exceed August.

Because of conditions, third quarter truck production will not amount to 100,000. Only a vast improvement in conditions would enable the industry to build 340,000 trucks in the fourth quarter and thereby meet pre-V-J day authorizations for the last half of 440,000 trucks.

DETROIT—Truck operators, who have been looking for an increased supply of new trucks in the months ahead to replace worn and weary equipment, are likely to get caught in the backwash of labor strife that now is threatening to tie up production in the automotive industry.

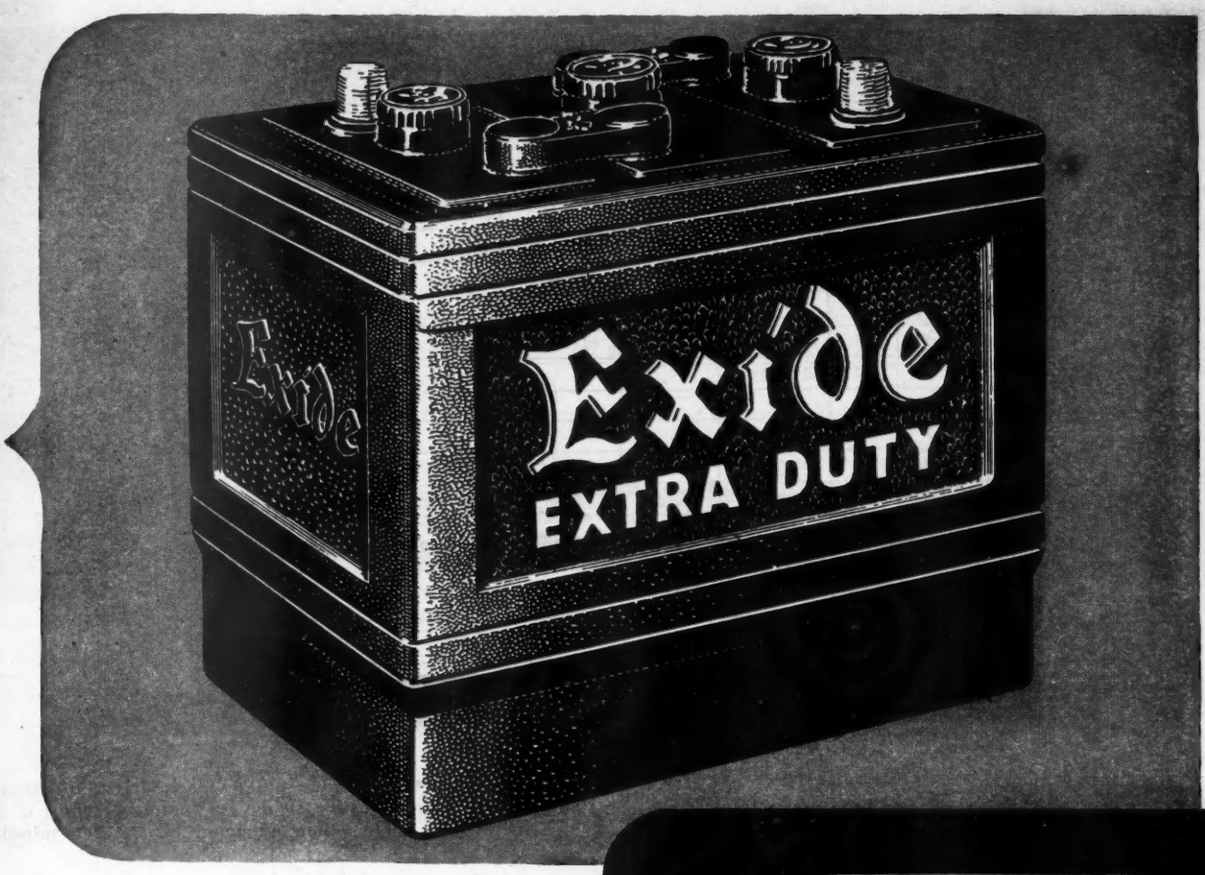
The UAW-CIO is laying now the groundwork for strikes against the Big Three automobile companies—Ford, General Motors and Chrysler—who produce the major part of the light and medium truck production of the country. While all three are now or soon will be conducting discussions on the 30 per cent wage increase demanded by the union, machinery to call a strike has been set in motion by locals at all three companies. What the outcome of the negotiations will be is impossible to predict, but most observers in Detroit believe that major strikes are likely, and minor ones a certainty.

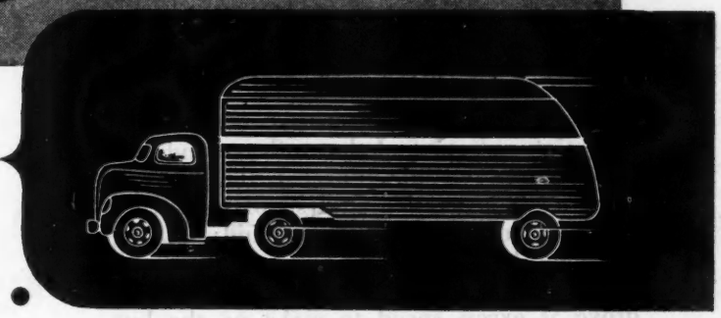
Even if strikes should be averted at the manufacturers' plants, there still is the problem of suppliers who have been plagued by labor stoppages for several weeks now. The most notable one is the strike at Kelsey Hayes Wheel Co. which closed down all Ford operations August 23. In addition to Kelsey-Hayes, 16 other Ford suppliers also were down with strikes. Studebaker also reported that its lines were down in mid-September because of suppliers' troubles and Dodge shut down about a week later for the same reason. Chevrolet for the moment still is operating, although it had a bad month during August when its Norwood plant was closed by a strike there.

The union strategy as announced is to concentrate its fire on one large company at a time, while rendering all possible aid to its competitors to keep full production going. It is thought that the terrific pressure of competition will force the struck company to capitulate quickly, and that others rather than be subject to the same treatment will quickly fall into line. Plans call for increases in all truck plants in which the UAW-CIO has representation, including Mack, International and Diamond T.

One development which may delay strike action is the announcement by the union that interim pay increases of less than the 30 per cent demanded may be accepted by locals if they are not taken as final determinations. This appears to be a retreat from the adamant stand publicly presented at first, and it is impossible of interpretation in light of the tangled web of politics and confusion that now envelops the situation. The shadow boxing and political maneuvering within the union itself indicates an explosive internal situation that may be touched off any week. In view of what has happened innumerable times during the war and since V-J Day, the unions have yet to demonstrate that they can keep their locals in line. At best, the picture is not bright.

This modern, streamlined Model WA-122 White Super Power vehicle is typical of the latest mobile equipment used by the Emergency Service Division of the New York Police Department. It is fitted out with floodlights, generator, portable telephone, two-way radio, inhalators, rifles, axes, nets, ladders, and every other device needed for rescue work and other emergency service. Photo shows the squad getting out equipment at the scene of trouble.





EXIDES...

FOR LONGER BATTERY LIFE—AND LOWER COST PER MILE

When your trucks are Exide equipped, you can count not only on peak performance, but also on greater battery mileage at less cost per mile of operation . . . results that are being obtained repeatedly by fleet owners throughout the country.

Exide engineering and manufacturing skill combine to produce a battery of exceptional ruggedness and dependability. To this has been added a valuable experience with automotive batteries in war service in all parts of the world...an assurance of even better Exide performance in the days ahead.

If you have a special battery problem, write to Exide.

ARMY E NAVY

Exide
EXTRA DUTY
BATTERIES

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto

DRIVER'S NAME Joe Barton — August 1945

DATE	UNIT NO.	TIME ORIGIN TO DESTINATION	TIME LOST PERSONAL STOPS	TIME LOST UNAVOIDABLE DELAY	TIME LOST PICK & DROPPING	ACTUAL DRIVING TIME	MILEAGE COVERED
1	12	7' 50"	.30"			7' 20"	238
2	21	9' 00"	30"	1' 30"		7' 00"	238
3	34	7' 30"	1.00"			6' 30"	238
4	33	15' 15"	30"	6' 00"		8' 45"	280
5	12	10' 00"				9' 00"	280
6	34						
7	25						
8	28						
9	27						
10	28						
31							
TOTAL TRIPS	28	217' 00"	15' 30"	25' 00"	10' 00"	166' 35"	5350

Individual charts are made out on each driver to determine daily performance. Every 30 days a summary report is made up on each. Thus their efficiency can be determined

10 PER CENT OF THE TIME TRUCKS WILL BE STOPPED

This is a story of a fleet that improved its operation only to find that mileage and tonnage figures fell off. Puzzled, the management made a detailed analysis of truck running time and this is what it found:

"Some drivers stopped as much as 50 per cent of the time while enroute, and then drove at excess speed to make up the lost time. It proved others to be habitual breakdowners.

"On picking up and dropping freight enroute, where it was routine in nature and had very little variation, the analysis showed some drivers to use 75 per cent more time than others to effect that operation.

"Another thing, this data revealed that, without exception, 10 per cent of the time a unit is enroute it will be stopped.

Other benefits obtained from such an analysis of running time are outlined by the author, who shows that for the small amount of effort required, this kind of paper work pays well.

Trip Analysis T

Loran Walch

THE actual rolling of loaded trucks is the bread-winner of any motor carrier and, consequently, the real production line. And that particular phase of the motor carrier industry has been neglected sadly when it comes to analyzing and promoting a higher standard within the operation itself.

Promotional activity in operation, and maintenance of the operation, should not be confined, in its entirety to routine driver conferences or systematic lubrication, overhauling and checking of equipment. Psychology and practical application of the principles of good business methods must be instilled in the maintenance and driving personnel on the same basis, or even a greater basis, that is applied in the business and financial end of the organization.

Any progressive motor carrier maintains a complete and far reaching bookkeeping system from which is drawn the balance sheet, and the profit and loss statement. Also, as changes occur in tonnage figures, seasonal trends, and rates, the analysis of these data puts the executive branch on its toes to bring about a continuation of favorable conditions. This data is carefully scrutinized daily to catch and feel the pulse of the financial status of the company.

Motor carriers as a whole have not availed themselves of this method of analysis to promote a higher standard within the operation itself.

MONTH August

DRIVER & NO. OF TRIPS	OVERALL TIME ORIGIN TO DESTINATION	TIME CHECKING & PERSONAL STOPS	TIME UNAVOIDABLE DELAYS	PICKING UP & DROPPING	TIME ACTUALLY DRIVING	MILEAGE DRIVEN	AV. MILES PER HR.	PERCENT OF TIME LOST ENROUTE	AVERAGE HOURS PER TRIP
JOE BARTON 28 Trips	264' 25"	23' 05"	11' 30"	6' 00"	223' 50"	6988	33.77	13.07	9' 37"
SAM KUZIG 30 Trips	252' 50"	13' 00"	15' 30"	2' 00"	222' 20"	6482	29.15	11.27	9' 43"
ADRIAN JONES 28 Trips									
SAM SMITH 26 Trips									
TOTAL TRIPS 443	4386' 45"	331' 40"	234' 45"	42' 00"	3778' 20"	115,736	30.63	12.91	9' 54"

This driver analysis chart enables the supervisor to compare drivers and to average their hours per trip (column at right). Bottom line summarizes drivers' totals for one month

Trips Avoidable Time Losses

Simple forms show wasted running time, help management to correct bad driving habits and plan full schedules. Data posted daily spur competitive spirit and instill self-discipline

by LORAN WALCH

Superintendent of Operations
Hannibal-Quincy Truck Line, Hannibal, Mo.

THE first consideration in an operation is that all units should be "road worthy," that they should be properly fueled and lubricated; that they should be properly and adequately tired; that they should be operated by drivers who can come up to a standard of qualification equal to the task.

If the successful operation of the truck movements does not work out satisfactorily, it will not help matters much to run out into the shop and raise "Old Ned" with the shop foreman or to discharge a driver or two. An analysis of the situation might reveal that the shop foreman or the drivers were not at fault nearly so much as the management itself.

To illustrate this point let us take as an example an operation between Kansas City and Chicago with which I was formerly connected. It had about six or eight sleeper cabs. In 1942 this operation was stepped up to 24 trucks a day, half of them running each way. At the midway point, a relay station was put in and drivers were changed, making only a one hour delay to the unit at that point.

(TURN TO NEXT PAGE, PLEASE)

TRIP ANALYSIS . . .

(Continued from page 81)

This gave second day delivery of freight in either Chicago or Kansas City, the drivers only working about nine hours per run and the truck was kept moving.

In spite of this stepped up procedure, the mileage and tonnage figures fell off, as compared with the former set-up. An operation of this type required about 30 drivers to keep it going. An analysis was started of the actual road performance of these drivers and the trucks.

The data was tabulated to show the following specific information.

1. The overall time that a driver had a truck in his charge.
2. His time lost for personal reasons, such as eating and rest stops.
3. Lost time for unavoidable reasons; namely, breakdowns, weather conditions, flat tires, delays of any sort over which the driver had no control.
4. Time lost for picking up and dropping enroute.
5. The actual time that he had that truck rolling.

At the end of the month a recapitulation was taken on each driver showing his overall figure for each of the items. It was broken down to (a) his per cent of time lost enroute, (b) his overall average miles per hour, (c) his total miles for the month, and (d) his average hours worked per day.

It was an outstanding set of figures. It brought out that some drivers stopped as much as 50 per cent of the time while enroute, then drove at excess speed to make up the lost time. It proved others to be habitual breakdowners.

On picking up and dropping freight enroute, where it was routine in nature and had very little variation, the analysis showed some drivers to use 75 per cent more time than others to effect that operation.

Trip Sheets Tell the Story

ONE might wonder how this information was obtained. It was very simple. All drivers turn in log sheets daily. These were used in the compilation, the information being taken off by the person who filed these log sheets daily. Also, the drivers were required to stamp their manifest sheets on a clock on departure and arrival at all terminals. The accompanying illustrations, Fig. 1 and Fig. 2, show typical forms for compiling data such as outlined above.

Personal checking and contact with the drivers also helped in the gathering of the information. It was comparatively simple to obtain. It required, in the main, a daily compilation and maintenance.

After compiling this data for a month or two, the discrepancies in the operation could be easily attributed to certain individuals. The remedy was obvious: Correction or dismissal.

Another thing, this data revealed that 10 per cent of the time a unit is enroute it will be stopped.

The "auditing" and feeling the pulse of the actual movement of trucks by the same methods that the fleet's financial control is maintained brought out other seemingly little faults that were easily corrected for the betterment of the operation.

Driver Interest Aroused

INASMUCH as the data provided such conclusive information about every driver in the operation, it was decided that such analysis should be systematized and used continually. After the system was well under way, the drivers became interested and cooperative. It developed a healthy competitive spirit and provided the means by which they could find out who was excelling and leading in the operation.

This equipment was all in a pool. Every driver was subject to drive any piece of equipment, so that one driver could not contend that his truck was not as good as the fellow that did a better job of driving.

A daily program chart was posted and the drivers watched it daily to check on their standings. When a driver's lost time for breakdowns began to creep up, he began to reckon with himself as to the reason why. He made a closer check of his equipment before he started out on the road, consequently, the road failures became fewer because the driver would have the things done that were necessary to keep his breakdown average low.

Drivers stopped spending too much time at lunch stops, for if they did, averages for unnecessary lost time went up. If they concealed time excessive spent at lunch stops by driving fast to make it up, their average miles per hour went up, which reflected on safe performance.

Other Advantages of System

THIS system developed self-discipline among the drivers as well as let the management know what was going on and what their operating problems were.

This continuous analysis also enabled the management to make a definite estimate on how many trips could be expected per month from each unit and how many miles could be crowded into any one month or period of time.

Fleet unit numbers also were carried along with the drivers' name. This showed that certain units required more time to be driven the 580 miles, regardless of the driver, reflecting the mechanical condition of the trucks.

This analysis also brought out that during the bad months of January and February and part of March road failures were practically nil, and that the lost time enroute was greatly reduced. The reason for this being that drivers made close and careful checks on their equipment to avoid flat tires or mechanical trouble out on the road which would have to be corrected in the snow and cold. They did less tarrying at lunch stands because the truck might freeze-up while stopped, so they kept moving.

During the better months of the year these items ran into a higher average of lost time due to a more liberal attitude of the drivers toward being stalled out on the road.

In addition to the advantages outlined above, this method of continually analyzing road time gave the operating supervisor something to work with when he attempted to correct and improve his operation. He knew who to correct or what trucks to correct. It weeded out the good from the bad in a conclusive manner.

Seven trucks, equipped with Ls bodies, which serve the Columbia Baking Company. Columbia's fleet of 400 trucks operates from 17 plants and through territories covering four states.

Built by the Murphy Body Works of Wilson, North Carolina, the Columbia trucks are designed to simplify handling of the baked goods they carry. All bodies have curb side door and double rear doors.

The all-steel body for a single truck— or for each chassis in a national fleet

There are 109 "Ls Jims" throughout the country
Do you know your local Ls Dealer?

"Jim," a neighbor of yours, was chosen an Ls body builder because of his ability to handle your requirements intelligently — whether you need one or 1000 truck bodies.

Your "Jim" knows local conditions and regulations thoroughly and can design a body to meet your exact individual requirements. He makes speedy deliveries of new truck bodies and does a quick factory repair job.

- **QUICKLY BUILT AND DELIVERED**
- **STRONG, YET LIGHT IN WEIGHT**
- **ATTRACTIVE AND MODERN IN APPEARANCE**
- **EASILY REPAIRED WITH INTERCHANGEABLE PANELS**

Truck and trailer bodies of Lindsay Structure, modern method of all-metal construction, offer several special advantages.

Quickly built by your local Ls body builder and delivered without shipping difficulties, Ls bodies provide all the advantages of both personalized service and Ls mass production.

Available in any desired size or style (there are 1152 standard models alone), Ls bodies are neat, modern and attractive in appearance. With Ls all the bodies in your fleet—whatever its size—can have the same distinctive lines.

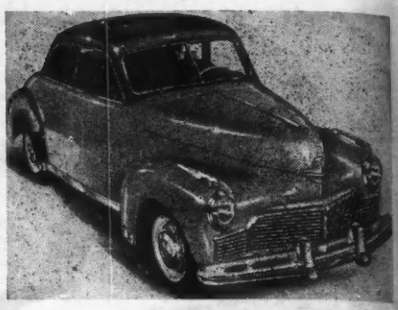
Easily and rapidly repaired with interchangeable panels, Ls bodies mean low-cost maintenance and more pay-service hours. When accidents occur only damaged sections need be replaced.

Check the possibilities of Lindsay Structure, in steel or aluminum, whether your fleet numbers one or 1000 trucks or trailers. Write to **Lindsay and Lindsay, Adams-Franklin Bldg., Chicago 6, Ill.; 60 E. 42nd St., New York 17, N. Y.; or Lindsay Structure (Canada) Ltd., Dominion Square Bldg., Montreal.**

LINDSAY Ls STRUCTURE

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents and Patents Pending

'45 Studebaker Champion Features New Springing



NEW styling, improved riding and luxury appointments mark the new models of the Studebaker Champion for 1945. Four types in the Champion series will be manufactured, and production schedules promise a complete sampling of dealers within the next few weeks.

New styling introduces the "Skyway" motif in a wide variety of colors to the lowest price field. The design reduces body lines to their simplest essentials. A new grille with horizontal members extending virtually full-width across radiator and fenders, complements the lines of the car. Bumpers with vertical guards further enhance the appearance of roadability.

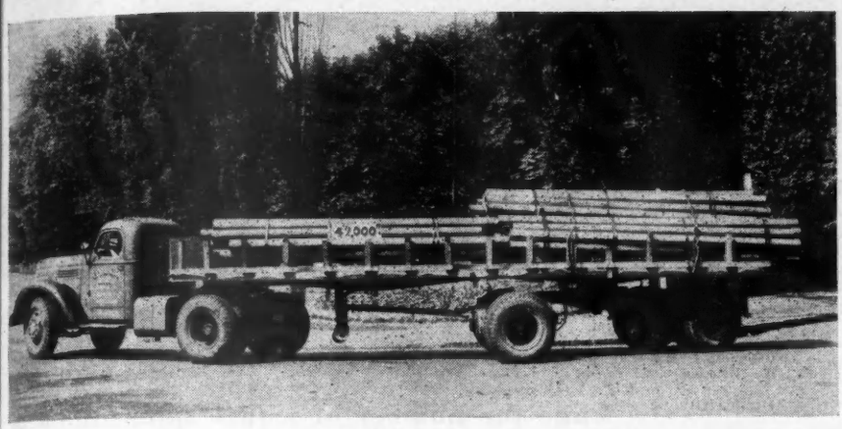
Now standard accessories include deluxe steering wheels; automatic dome lights in all models; automatic rear compartment lights in four-door sedans; and bright metal for body sill finishing strips, windshields and rear and side window mouldings. Twin air-tone horns, dual sun visors and windshield wipers and arm rests on both front doors are other features. Interiors are upholstered in wool Bedford cord.

The Champion 6-cyl. engine that powered the Army's Weasel is continued substantially unchanged. Worthy of comment among engine changes is the return of aluminum alloy pistons which were discarded in 1941 due to the scarcity of aluminum as a war material.

Spring action has been improved by tapering the ends of the leaves and the introduction at both front and rear of oil-impregnated, full-length inserts known as Flex-o-liners. These inserts tend to reduce interleaf friction and to assure smooth, soft spring action. Combined with planar front springing, the development imparts a new ease to riding. Shot peening, a method of toughening outer metal surfaces, has been continued for all of the spring leaves.

Automatic choke, floto oil screen, large capacity air cleaner and foot-regulated hydraulic brakes are other chassis features. A 15-plate battery replaces the previous 13-plate. Transmissions contain helical, silent gears throughout. Tire sizes are 16 x 5:50.

Overdrives, hill-holders and the Climatizer, which gives forced air circulation for both winter and summer driving, are among the accessories available at extra cost.



Self Steering Undercarriage Ups Payload 40%, Tire Life 100%

THE Hoobler Undercarriage, a two-axled, self-steering unit for van, high-side, flat-top and tank semi-trailers, has just been announced by The Union Metal Mfg. Co., Canton, Ohio.

Equipped with the Hoobler Undercarriage, 30 to 40-ft. moving vans, tank trailers and other large commercial vehicles can readily make a right turn from one 15-ft. street into another 15-ft. street without any of the tires touching either curb. The trailer undercarriage just follows smoothly and surely along "Indian file" fashion and can be "snaked" through narrow, congested city streets with the ease of a private car.

Attached to the underside of a semi-trailer platform and linked to the tractor by two parallel tongues, the trailer follows the turn of the tractor without any separate steering. In addition, its front set of wheels operates independently to guide the rear end of the trailer to follow the path of the tractor, and it is all done without any assistance from the driver, there being no controls in the cab for the driver to manipulate.

Due to this "true following" technique, this new undercarriage eliminates tire scuffing, promises to increase the life of large and expensive truck tires by as much as 100 per cent. Then, too, it provides "floating" instead of rigid transportation. This feature eliminates the necessity to lash loads and provides a safe ride for such frangible items as ceramics, glass, household furniture, etc.

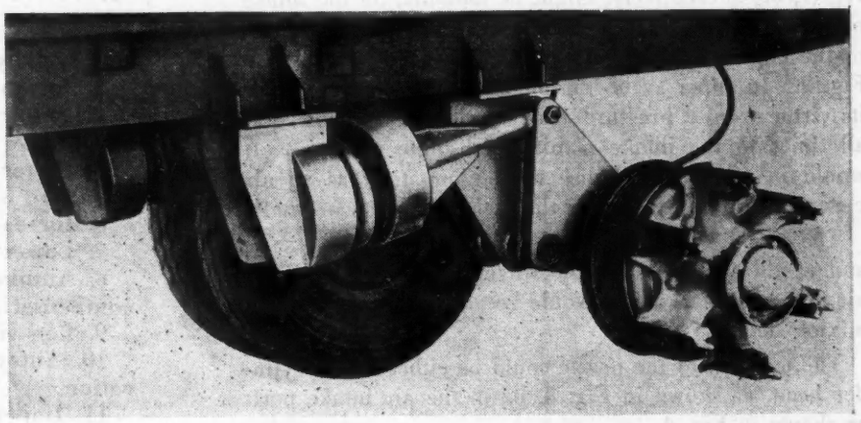
The principle advantage, however, reports the manufacturer, is more profit per ton mile. Payloads may be increased as much as 40 per cent, and lengths heretofore beyond the capacity of motor vehicles may now be carried with speed and safety.

Other benefits which have been demonstrated include: Easier driving, greater stability of load, reduction in the amount of power required, and greater safety on the road.

The Hoobler Undercarriage is designed to be used with standard axles, brakes, wheels and tires. It is made of double strength steel, welded into ideal box-beam members, and engineered and designed with ample factor of safety throughout with maximum strength both as to beams and in torsion for the mimimum weight.

Draw bars are attached by means of extra strength, rubber universal joints which eliminate wear or lubrication problems. Fifth wheel joints swing on "Olympic" bronze bearing plates ½-in. thick to eliminate need of replacement. Springs are designed to give constant and smooth increase in strength with increase in load, the manufacturer states.

The Hoobler Undercarriage is already in limited production. Sales will be made direct to trailer manufacturers for attachment to semi-trailers in sizes from 28 ft. in length and up.



New Trailer Springing Simplifies Suspension

A NEW idea in rear wheel suspension for semi-trailers is announced by Trailer Products, Inc., Indianapolis, Ind., manufacturers of Rock-O-Coil Trailer Wheel Suspension.

This device, which is actually a practical application of the principle of the simple lever, can be installed on almost any make or model of single-axle trailers, and is said to eliminate leaf springs, shackles, radius rods and helper springs. It

(TURN TO PAGE 276, PLEASE)

Gasoline I

While the number of actual applications is limited, available data on gasoline injection show faster throttle response, better cold weather starting, among 13 advantages

by H. O. HILL

American Bosch Corp., Springfield, Mass.

WARTIME restrictions prevented the disclosure of certain engineering data concerning the application of gasoline injection to truck engines. Now, while it is possible to discuss and publish available data on the subject, only basic facts can be given due to the limited number of actual applications from which operating details can be obtained.

Gasoline injection aims to provide a superior means of supplying gasoline engines with fuel. The application of gasoline injection equipment to an engine need not alter the combustion cycle in any way. Spark ignition is retained. The basic change involved relates only to the method of introducing the fuel, which is no longer supplied through a carburetor.

The injection equipment for an otherwise conventional four-stroke-cycle automotive engine could be described briefly as follows: A multi-cylinder injection pump having one pumping unit for each cylinder of the engine would be driven at half speed from a train of gears at the forward end of the engine.

An injection tubing from each pumping unit would lead to a spray nozzle located either directly in the engine cylinder head or in the intake manifold pointing directly at the air intake valve of the engine. A master control for regulating the amount of fuel delivered by the pump, so as to maintain the proper fuel/air ratio under all conditions, would be mounted on the injection pump and have a tube leading to the intake manifold, as shown in Fig. 1, or, alternatively, might be mounted on the intake manifold and have a mechanical linkage of some sort to the capacity control lever of the pump, as shown in Fig. 2. In either event, the master control would derive its virtue from a pressure-sensitive element responsive at all times to the intake manifold absolute pressure. It would in effect thus utilize the engine itself as an air meter and would proportion the fuel delivery accordingly.

The intake manifold would be of extra-large capacity and would contain a throttle valve for the regulation of air to the engine. There would be no carburetor or other mixing device.

The location of the nozzle could be either in the cylinder head, as shown in Fig. 3, or in the air intake port, as shown in Fig. 4.

ADVANTAGES OVER CARBURETION

The advantages of gasoline injection as outlined by the author are:

1. Improved volumetric efficiency.
2. Better fuel economy.
3. Faster response to throttle.
4. Better cold weather starting.
5. Fire hazard reduced.
6. Increases supercharging possibilities.
7. Lower grade fuels usable.
8. Automatic temperature and atmospheric compensation.
9. Less susceptible to vapor lock.
10. Automatic fuel shut-off during deceleration.
11. Impervious to vehicle attitude.
12. Engine height reduced.
13. Permits manifold separation.

Advantages of Gasoline Injection

1. Improved volumetric efficiency.

Application of gasoline injection equipment permits the use of large intake manifolds by eliminating gasoline mixtures from the induction system and making unnecessary any reduction in manifold flow area to insure adequate mixture velocities at low engine speeds. The customary compromise between good idling and maximum power can be entirely avoided.

Furthermore, the separation of the fuel admittance function from the air admittance function gives the designer a free hand with intake and exhaust valve timing, which is especially important with supercharging. There can be a great overlap between the exhaust and intake processes, to promote good scavenging, while evading backfiring and loss of fuel, also reducing the erratic idling usually associated with large valve overlap.

If the fuel is admitted early in the intake stroke, an appreciable portion of it can be evaporated before the

* Excerpted from a paper presented by the author at a meeting of the Metropolitan Section of the Society of Automotive Engineers, New York City.

Injection Offers—

Better Fuel Economy and Performance*

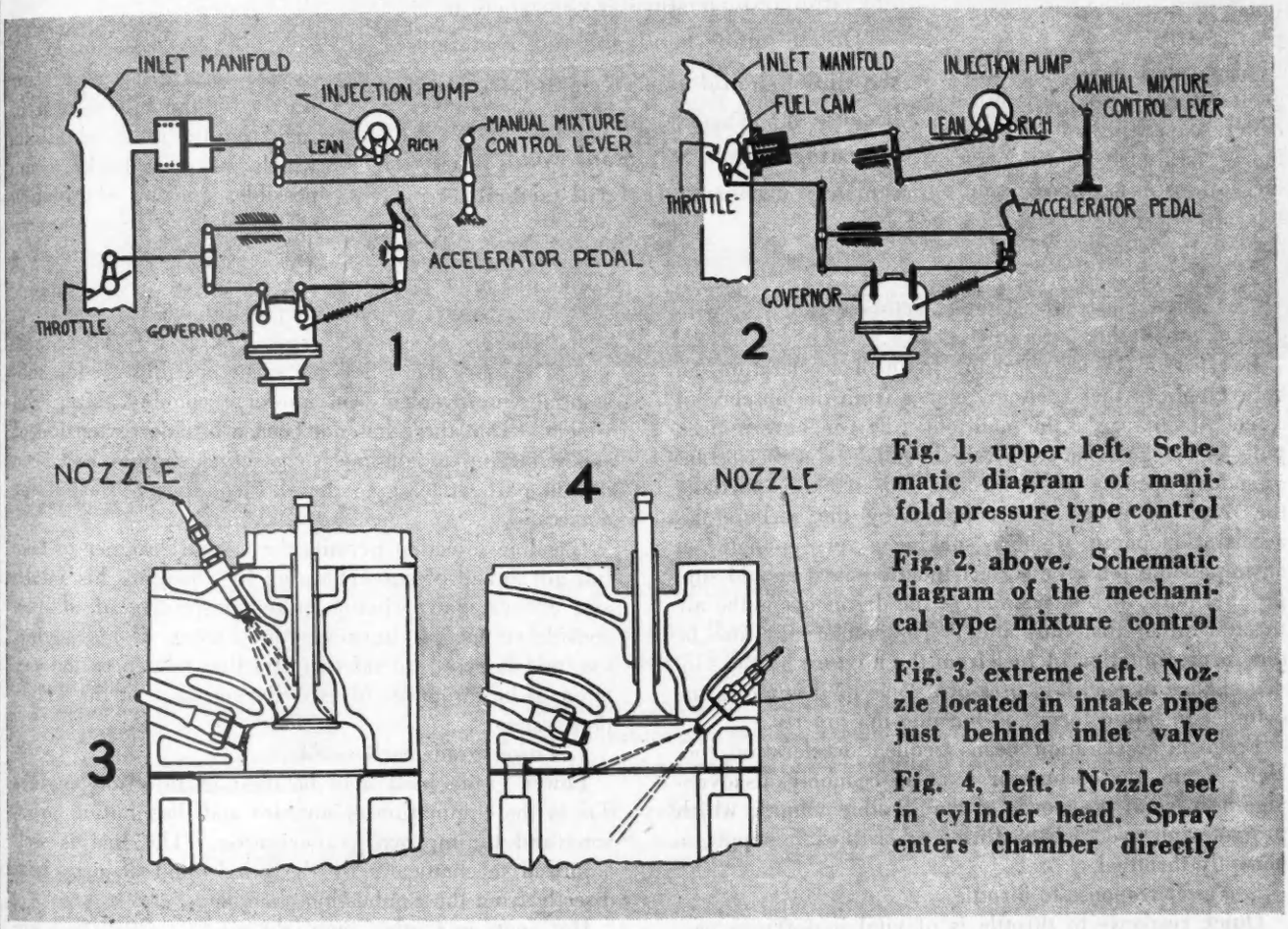


Fig. 1, upper left. Schematic diagram of manifold pressure type control

Fig. 2, above. Schematic diagram of the mechanical type mixture control

Fig. 3, extreme left. Nozzle located in intake pipe just behind inlet valve

Fig. 4, left. Nozzle set in cylinder head. Spray enters chamber directly

intake process has been completed. This evaporation cools the residual gases and the fresh air charge. The cooling decreases the pressure in the engine cylinder with the result that more fresh charge is drawn in.

Moreover, with gasoline injection the incoming air can be cold (which means a greater weight of air per unit of volume) because it need not have anything to do with the carrying through the manifold of a mixture.

All of these things contribute to improvement of the engine's breathing capacity and thus to its greater efficiency and power.

2. Better fuel economy.

Gasoline injection permits equal distribution of fuel to the cylinders of the engine; hence, more nearly uniform fuel/air ratios among the cylinders, all of which

(TURN TO NEXT PAGE, PLEASE)

Gasoline Injection . . .

(Continued from page 89)

may now be operated at ideal mixture strength. This is in contrast to the carburetted engine, whose distributed mixture is frequently richer than it should be because of the necessity to favor the leanest cylinders.

With gasoline injection the incoming air can be cold (which means a greater weight of air per unit of volume) because it need not support a mixture.

Also, the more advantageous valve timing permits better scavenging of the cylinders, and early injection of fuel utilizes in its vaporization some of the heat which it is desired to dissipate from the cylinder.

The inevitable result of these factors is that the economy of the engine is improved.

In types of service requiring frequent acceleration, an appreciable further economy comes from the absence of a fuel-air mixture in the manifold. All of us have noticed puffs of black smoke from vehicle exhausts at the instant of sudden opening of the throttle. This smoke is partially the result of excess fuel supplied by the carburetor's acceleration pump, which is making a very good try at an impossible job (for perfect functioning it should supply that burst of fuel just *before* the driver opens the air throttle rather than just after). The smoke may also be due to precipitation of fuel from the mixture by the sudden change in manifold pressure, some of it entering the cylinder in liquid form and burning improperly.

Frequent acceleration means frequent deceleration, too. Here, again, the carburetor is at an economy disadvantage because of the inertia of the gasoline column, which promotes an over-rich condition when the air supply is abruptly throttled.

3. Faster response to throttle.

Quick response to throttle is of vital importance performance-wise to vehicles making many hundreds of stops and starts per day. With gasoline injection, throttle response is not hampered by the effects of the inertia of the fuel column or by the necessity to establish a new mixture condition in a capacious manifold before obtaining any benefit at the cylinders.

4. Better cold weather starting.

Because the fuel is sprayed directly into the cylinder, or its intake port, in an atomized condition and because the existence of a favorable fuel/air ratio within the cylinder is assured, the starting of the engine, when cold, is greatly improved.

COMPARISON WITH DIESEL

"While the application of the injection equipment is obviously directly comparable, it can be pointed out that gasoline injection equipment probably will be lower in its first cost than corresponding diesel equipment.

" . . . In addition to this, the engine itself could be lighter and less expensive than a diesel because the higher firing pressures of the latter require sturdier construction.

"On the other hand, the fuel economy of the diesel should remain definitely superior because of the greater thermal efficiency of its operating cycle. And, in any event, the diesel can burn a cheaper fuel satisfactorily."

It is no longer necessary to have an over-rich mixture passing through a long intake manifold in order to effect starting in cold weather. This over-rich mixture in carburetion engines frequently defeats its own purpose in making starting more difficult. A gasoline injection engine starts readily without excessive richness even when the engine is very cold.

5. Fire hazard reduced.

Fire hazard is greatly reduced by the elimination of fuel from the intake manifold, which makes a backfire impossible, and by elimination of the carburetor as a source of explosive vapors from a hot engine after shutdown.

6. Increases supercharging possibilities.

It is hardly necessary to state that in the supercharging of engines there lie very great possibilities for substantial improvements in power, economy, size, and weight. That there has not been a broader extension of supercharging to automotive gasoline engines has been due in part, at least, to the shortcomings of carburetor devices.

Gasoline injection permits the engine designer to take full advantage of supercharging by changing his intake and exhaust valve timing quite irrespective of all fuel considerations. It improves the cooling of his engine, too, and imposed no safety restriction related to the creation of large masses of explosive mixture in the induction system.

7. Lower grade fuels usable.

Lower grade fuels may be used in injection engines due to the elimination of mixture and distribution problems and to improved vaporization. The fuel is well atomized mechanically by the nozzle and absorbs heat directly from the combustion chamber.

Hot spots and other manifold air-heating devices are not required to obtain proper vaporization. This further contributes to the improved volumetric efficiency outlined in Item 1.

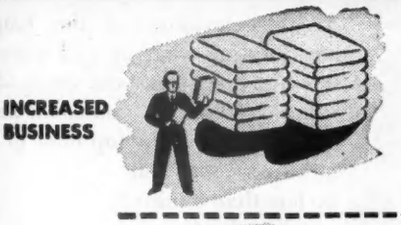
8. Automatic temperature and atmospheric compensation.

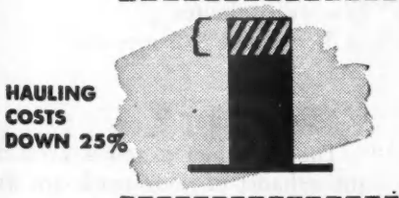
Generally speaking, a gasoline injection engine would have automatic temperature and atmospheric compensation, although this, of course, depends upon the type of master control used. It is presumed that in automotive service the control would be one which is regulated by the intake manifold pressure.

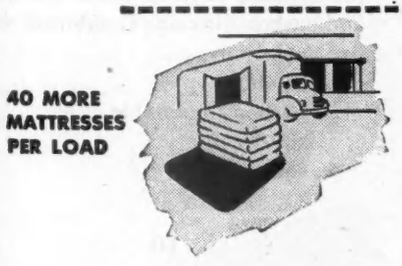
(TURN TO PAGE 114, PLEASE)

BED-ROCK COSTS FOR RIVERSIDE BEDDING

Of their GMC truck and Fruehauf Trailer, Riverside say: *"We are very sorry we did not use this type of delivery service several years ago."*







ORIGINALLY, Riverside Bedding Company, of Moultrie, Georgia, handled their shipments by rail. They lost business—both to competitors who had better rail facilities and to those who shipped by truck.

They switched to truck operation and experienced a decided growth in their business.

Then, recently, they added a Fruehauf Trailer—and hauling costs went down 25%.

More important, the *small* truck and Fruehauf Trailer carries 40 more mattresses per load than the *big*, long-wheelbase truck they formerly used—more customers served per trip.

As O. F. Adams, secretary of the company puts it, "There would have been many advantages for us and our customers if we had purchased such a Trailer long before now."

Have you challenged your haulage set-up lately? There's a Fruehauf transportation engineer in your vicinity who will be glad to work with you. No obligation, just ask him to call.

World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER COMPANY • DETROIT 32

Service in Principal Cities

FRUEHAUF TRAILERS

"ENGINEERED TRANSPORTATION" Reg. U. S. Pat. Off.

CCJ QUIZ

by ROBERT F. BAHL

C.C.J. QUIZ
Score Card

1.	☐	6.	☐
2.	☐	7.	☐
3.	☐	8.	☐
4.	☐	9.	☐
5.	☐	10.	☐

Total Score _____

Folks used to talk about having "horse sense." Since old Dobbin has been retired to pasture, we'll have to change that to "truck sense." Test your "truck sense" by answering these 10 questions. Count 10 points for each correct answer. This looks easy, but watch your step. Sixty is fair, 70 good, 80 excellent, 90 super and 100 perfect. Answers are on page 118.

1

Your truck runs on gasoline and air. You're lucky, though, that you pay for the gasoline and the air is free, because for every gallon of gasoline you use . . .

a. 2 gal. of air
b. 10 gal. of air
c. 100 gal. of air
d. 7000 gal. of air

2

Down on the farm, sulfur and molasses used to be a good spring tonic. You should know, too, that these are two of the initial ingredients of . . .

a. Ethyl fluid
b. alcohol
c. hydraulic brake fluid
d. brake linings

3

If the cost price of a truck were based on its length, you would do best to purchase a new truck in . . .

a. Spring
b. Summer
c. Autumn
d. Winter

4

If a metal is not attracted by a magnet, do not be too positive that it isn't iron or steel. It might be . . .

a. cast iron
b. pyrites
c. manganese steel
d. carburized steel

5

The air rushing through your air cleaner sometimes reaches a velocity of more than 75 m.p.h. The U. S. Weather Bureau would classify a wind of such velocity as a . . .

a. gentle breeze
b. strong wind
c. gale
d. hurricane

6

Atomic energy, if harnessed, might some day heat our homes. The heat developed by a truck engine at 40 m.p.h. on a hill, too, if harnessed, would be enough to heat . . .

a. a space 4 ft. x 4 ft. x 4 ft.
b. the living room of your home
c. four average size bungalows
d. Madison Square Garden

7

Even if gold were half the price of steel, it is doubtful if any manufacturer would use it for a truck or trailer body, because . . .

a. of its extremely heavy weight
b. it would be impossible to paint over it
c. it would rapidly corrode
d. it would tend to soften under heat of the sun

8

If the elevators of the Empire State Building went up and down as fast as the pistons in your truck when it is going 40 m.p.h., you could travel from the street to the top floor in . . .

a. two seconds flat
b. less than a minute
c. two minutes
d. ten and 3/8 minutes

9

The two chief products formed in the exhaust of your truck are water and carbon-dioxide. Combined, these two make up . . .

a. alcohol
b. carbon monoxide
c. anti-freeze
d. soda water

10

Your truck engine will operate best if your cooling system can keep the temperature at . . .

a. at least 10 deg. below freezing
b. 32 deg. Fahr.
c. the temperature of the air
d. a bit below the boiling point of water

Shy on starts
—because it's POWER-*SAPPED*

ORDINARY BATTERY

—brand-new but power-shy! That's because all *idle* batteries go stale, lose power — may be half dead and short on starts when installed — may suddenly stall war-rushed transport schedules!

High on starts
—because it's POWER-*FULL!*

GOODYEAR YKL BATTERY

—always factory-fresh and at power-peak when you get it! That's because your Goodyear dealer keeps it on constant power charge until installed. Power-high when you buy, it has more sure starts in it to begin with!

PLUS

CUSHIONED POWER Construction

YOU get more punch-and-power starts from the heavy-duty YKL because Goodyear's *cushioned power construction* makes it shock- and shake-proof. Felted Fiberglas mats placed between the plates protect and preserve them by *cushioning* them against bruising road jars. That's plate protection at its peak—and plate protection is the prime requisite for longer battery life. Remember these facts when you're ready to buy a new heavy-duty battery. Get a YKL and get all the power you pay for—all the stamina you need.

YKL—T.M. The Goodyear Tire & Rubber Company

EXCLUSIVE CHARGER RACK

keeps Goodyear batteries automatically at power-peak with a continuous trickle-charge until installed. That's why they have more "go" to start with — stay road-ready longer in your truck!

YKL BATTERIES
—for buses, trucks, tractors

GOODYEAR

THE GREATEST NAME IN RUBBER

HIGH INTELLIGENCE TO REPLACE "STRONG BACK, WEAK MIND"

"Once upon a time, the truck driver was considered sufficiently of a rough and tumble character to have made him the standard of a hurly-burly irresponsible person.

". . . wages have increased to a point where the economic status has changed and the range of selection has widened . . .

"The driver, in many cases, is the only real contact that the operating company has with customers and the public. It is, therefore, essential that this be realized and the driver must, therefore, be equipped both mentally and physically to make a good impression wherever he makes contacts with the outside world. He also is the guardian of safety, as far as the public is concerned, and he must be willing to be charged accordingly with his responsibility in this respect."

The Postwar Driver—
—A MAN OF RESPONSIBILITY*

Higher driver wages command higher intelligence, better personality, job pride, greater competence in and understanding of care of truck and cargo

by ROBERT CASS

Assistant to the President, The White Motor Co., Cleveland

Robert Cass

IT seems that perhaps before we ask ourselves to what degree a driver should accept responsibility, we should analyze the kind of driver the truck transportation field calls for in the future and in what respect he is similar to drivers in other modes of transportation. Because intelligent self-interest demands a study of the situation by the manufacturer, we have endeavored to first see whether history reveals some helpful facts.

I think it is becoming increasingly obvious that there is a startling difference in the truck driver of today as compared to the truck driver of 10 or 15 years ago. The driver today is an entirely different individual, because the business of truck transportation has grown up and demands a more intelligent understanding of the job, and because the physical effort no longer demands that the first consideration in driver qualifications be whether he can lift large weights.

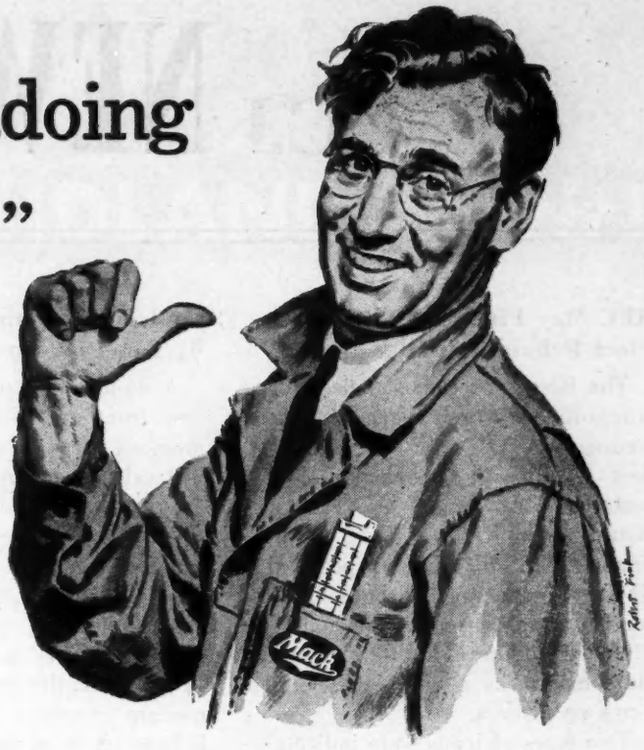
Once upon a time, the truck driver was considered sufficiently of a rough and tumble character to have made him the standard of a hurly-burly irresponsible person. One heard the phrase, "just like a truck driver," with respect to behavior that certainly wasn't associated with a good, competent handler of 50,000 or 70,000 lb. of gross weight across this country's highways.

Furthermore, wages have increased to a point where the economic status of the truck driver has changed, and the range of selection has widened. Because this seems very true, it also would seem equally reasonable to anticipate that a larger degree of responsibility would be automatically assumed, and certainly the level of intelligence

(TURN TO PAGE 108 PLEASE)

* Excerpted from an address delivered by the author at the Institute of Public Safety, Pennsylvania State College, on Sept. 11, 1945.

"Me...an Engineer...doing this and liking it!"



"Ever hear of a design engineer *repairing* the trucks he designs? It happens regularly at Mack—and we wouldn't have it otherwise! Believe me, mister, every time a Mack engineer gets his hands dirty, he's saving your money and your mechanic's time. It's like this . . ."

1. When a designer gets away from his drawing board and under the hood, he really begins to appreciate the maintenance man's angle. He sees mighty quickly . . .

2 . . . why a truck should be designed so that a repair man can reach the parts he wants without spending half a day just getting to them . . .

3 . . . and he begins to sense that groping for a part under the hood or chassis is a lot different from pointing to it on a blueprint. Well, sir, after a couple of lessons like that . . .

4 . . . you've got a mighty practical design engineer! We Mack engineers have been through the mill. That's why we're so conscious of the importance of *accessibility* as a maintenance factor.

5. Mack design makes your mechanic's job easier—saves his time and your money—shortens layoffs for repairs. Just one more reason why Mack Trucks *cost less in the end.* Look around—look ahead—buy Mack!

Mack

TRUCKS

FOR EVERY PURPOSE

ONE TON TO FORTY-FIVE TONS

New Mack Trucks are available for essential civilian use. Ask for details.

★ BUY THAT EXTRA WAR BOND TODAY ★

ARMY E NAVY

Mack Trucks, Inc., Empire State Building, New York City. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, N. Y. Factory branches and dealers in all principal cities for service and parts.

CCJ NEWSCAST

RFC May Finance Fleet Rehabilitation

The Reconstruction Finance Corp. is reported favorably disposed toward lending money to truck operators for fleet rehabilitation. When a representative of American Trucking Assns. asked RFC to study postwar financing in its overall aspects, the RFC was understood to be willing to consider granting outright loans at 4 per cent interest for four years or more on trucks and possible longer terms on trailers.

Two types of loans were indicated: (1) Participation loan in which an approved bank lends up to $250,000 and RFC participates by assuming up to 75 per cent, and (2) direct RFC loan to carrier where the latter has a "substantial equity" in the property to be purchased.

July Freight Volume Drops

The volume of freight transported by motor carriers in July decreased 4.4 per cent below June, but was 1.5 per cent above July, 1944, according to statistics compiled by the Department of Research of American Trucking Assns., Inc.

Comparable reports received by ATA from 248 carriers in 40 states showed these carriers transported an aggregate of 1,968,248 tons in July, as against 2,059,780 tons in June and 1,939,217 tons in July, 1944.

July Tire Output Down 11.1%

July output of truck and bus and passenger car casings declined temporarily by 11.1 per cent under June, 1945, as the result of shutdowns for maintenance and repairs, interruptions from strikes at several plants, and vacations, the Rubber Mfrs. Assn. has reported.

Automotive passenger car casings dipped 1.5 per cent to 1,938,650 units in July, the last full month of war production. Output of pneumatic truck and bus casings declined 23.9 per cent to 1,115,510 in July.

Hudson Announces ¾-Ton Pick-Up

A ¾-ton, cab pick-up model with new front end styling has been announced by Hudson Motor Car Co., for early production. Chassis features are the same as for the passenger car lines. It will be powered by the Super-Six engine—6-cyl., 3 in. bore x 5 in. stroke, rated 102 hp., corresponding in all respects to the passenger car version. The brakes are 11 x 1¾ in., the same as on the Commodore chassis. Spring suspension is knee-action at the front with heavy duty leaf springs at the rear, the latter with full capacity for commercial loads. Tires are 16 x 6.50 but are of heavy-duty six-ply type.

SWPC to Reserve 25,000 Trucks for Veterans

The Commerce Department, Office of Surplus Property, is now setting aside a reserve surplus of trucks for sale to veterans. The Smaller War Plants Corp. will be the enabling agency, exercising its priority rights as provided in the Surplus Property Act.

SWPC has had upwards of 25,000 requests from veterans for surplus trucks up to the present time, and Commerce says that sufficient numbers of trucks will be set aside at irregular intervals until all requests from veterans are filled.

Railroads Need No License to Operate Radio Transmitters

The Federal Communications Commission, through a recently issued order (No. 126), has authorized railroad employees to operate radio transmitting equipment used in connection with railroad operations without obtaining operator licenses.

No doubt, some similar arrangement is desirable for truck operators in connection with the proposed mobile radio communication service for motor vehicles.

(TURN TO PAGE 98, PLEASE)

Daniel J. Bradley has been appointed manager of the Philadelphia motor truck branch, International Harvester Co.

L. F. Van Nortwick has been promoted to director of truck sales for Dodge Division, Chrysler Corp.

Howard F. Miller has been named manager of the Petroleum Co. Tire Sales department of The B. F. Goodrich Co.

K. A. Dalsky has been named manager of truck tire sales for The General Tire & Rubber Co., in a reorganization of the sales department

Tom Boyle has been appointed district representative for the sales of Heil petroleum transport tanks and stainless steel milk storage and transport tanks for the central states

J. C. Ink heads a new department known as sales operations for The General Tire & Rubber Co.

CCJ NEWSCAST

(CONTINUED FROM PAGE 96)

SAE Names Board To Aid Engineering

Appointment of an SAE Technical Board of 23 high-ranking automotive engineers to coordinate and supervise all technical committee activities of the Society of Automotive Engineers has been announced by SAE President J. M. Crawford.

L. R. Buckendale, engineering vice president of The Timken-Detroit Axle Co., Detroit, Mich., has been named chairman of the board, which already has begun the work of converting the SAE War Engineering Program to peacetime service of industry and of government.

Additionally, the board will direct the development of a new cooperative engineering program designed to implement the request of Lt. Gen. Levin H. Campbell, U. S. Army Chief of Ordnance, for broadening and intensifying the wartime "functional teamwork" of SAE and Ordnance engineers to keep American motorized military equipment superior to that of potential enemies.

Skip-a-Day Milk Deliveries to Continue in Philadelphia

The large milk distributors in the Philadelphia area have voted unanimously to continue their war-born "skip-a-day" delivery service to homes instead of returning to the pre-war daily schedules. The every-other-day deliveries have resulted in considerable savings, mutually beneficial to the farmer, worker and consumer, the Milk Dealers Assn. has decided.

West Coast Fords Due in November

Production of 1946 Ford passenger cars on the West Coast will start in November, A. S. Hatch, West Coast regional manager for the Ford Motor Co., has announced. Reconversion of both the Long Beach and Richmond plants of the Company will start immediately, Hatch said. The Long Beach plant will employ approximately 1500 workers by the end of the year, and 2000 employees will be needed when the Richmond plant gets into production.

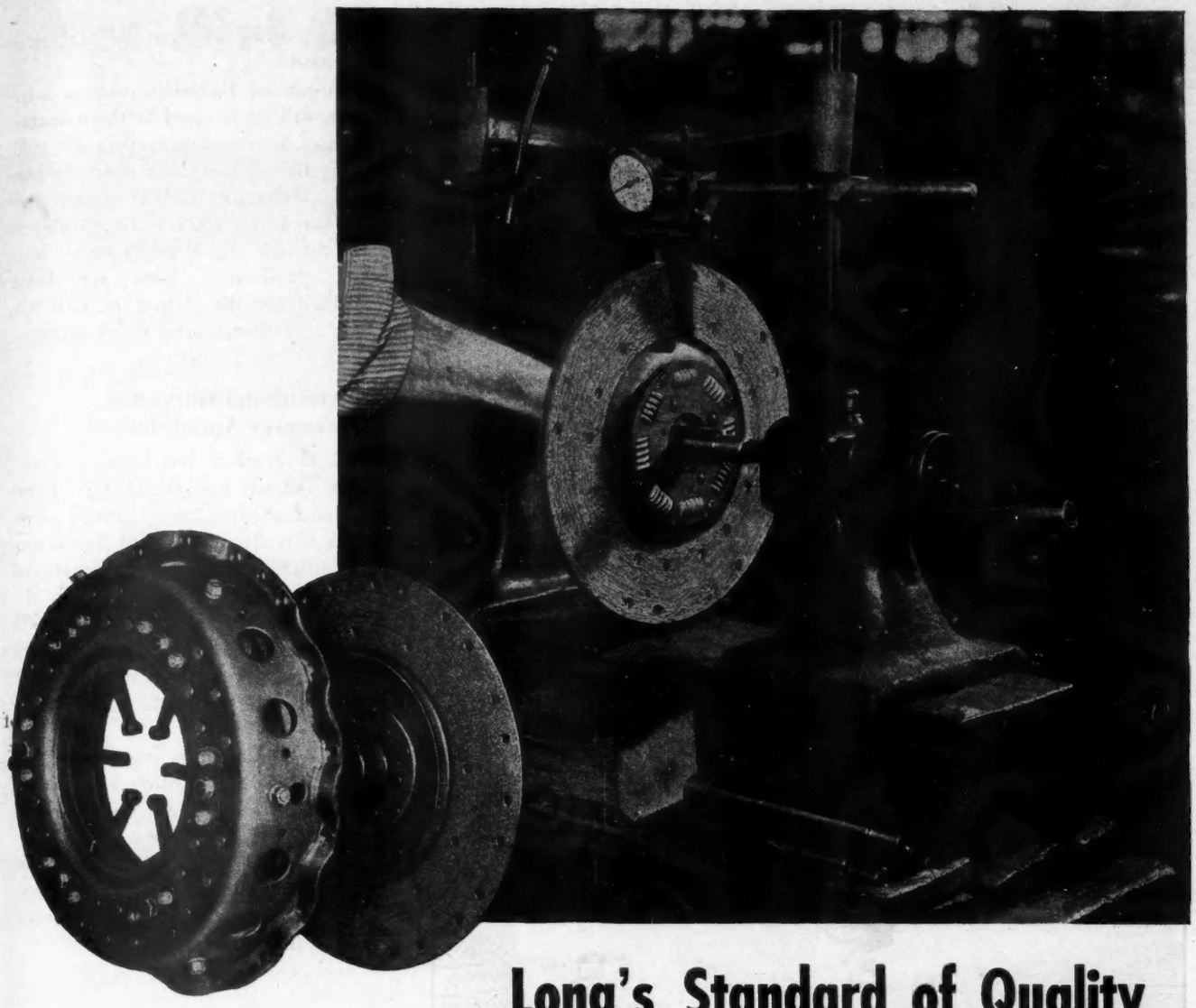
Conference Protests Gas Tax

Abolition of the federal gasoline tax was urged by the Pacific Group of the North American Gasoline Tax Conference at the closing session of a two-day conference held in Boise, Idaho, in August.

(TURN TO PAGE 100, PLEASE)

Captain Ralph L. Tompkins, lately released from the Marine Corps, has been appointed manager of the White Plains, N. Y., branch of Mack - International Motor Truck Corp.

Charles Adams has been appointed district sales manager for the K-D Lamp Co. covering Tennessee, Florida, Georgia and the Carolinas



Long's Standard of Quality for High Efficiency . . . Low Maintenance . . . Long Life

Insistence upon the finest quality has been an inflexible practice at Long Manufacturing Division. In design, research, development and precision craftsmanship, Long has always been the leader.

Checking each plate for the flatness of its face is only one of a series of inspection operations that protects Long's unfailing quality. These tests assure manufacturers and motorists alike of high efficiency, low maintenance and long life in clutch performance.

LONG MANUFACTURING DIVISION, BORG-WARNER CORP.

DETROIT 12 • WINDSOR, ONTARIO

LONG

CLUTCHES • RADIATORS
OIL COOLERS

CCJ NEWSCAST

(CONTINUED FROM PAGE 98)

In addition to pointing out that the federal tax duplicates state levies on an essential commodity, the resolution sent Congress complained that the Federal revenue derived from gasoline is used for general purposes and not for highway purposes.

Mooney and Bowes Elected to American Bantam

At a meeting of directors of the American Bantam Car Co. of Butler, Penna., held on Sept. 24 in New York City, James D. Mooney, vice president of General Motors Corp., and Jerome P. Bowes, Jr., president of Bowes & Co., Inc., and vice president of W. A. Alexander & Co., of Chicago, Ill., were elected directors, according to an announcement of Francis H. Fenn, chairman of the board and president of American Bantam.

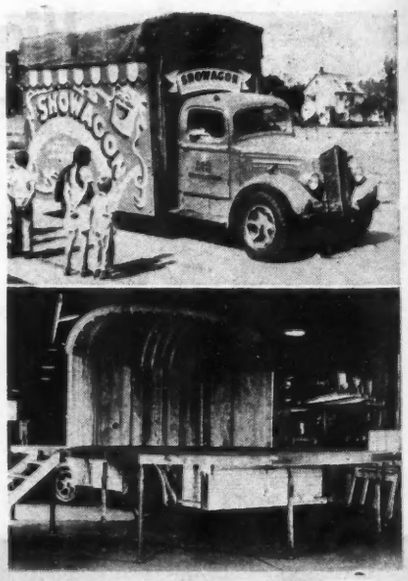
American Bantam's postwar activities will be devoted to the manufacture of heavy cargo trailers, the company having produced over one hundred thousand trailers of all types for the armed forces. In addition to the regular line of heavy cargo trailers, production lines are being readied for the output of half ton, one- and two-ton trailers for export.

International Harvester Announces Appointments

E. H. Watkins has been promoted from assistant branch manager, International motor truck branch, New York City, to manager of a new motor truck branch for International Harvester in Syracuse, N. Y. Mr. Watkins joined International in 1935 and was transferred to New York from the Cleveland branch in 1939. He became assistant manager in 1943.

Paul McLaughlin has been promoted from the position of national account supervisor at New York to assistant manager, where he will specialize on fleet sales. Mr. McLaughlin started with International Harvester at the Philadelphia motor truck branch in 1919.

(TURN TO PAGE 164, PLEASE)



This White Model 704 truck was converted into mobile entertainment unit known as the "Showagon" and used by the Division of Recreation, City of Cleveland, to carry entertainment to the people. It offers a folding stage and band shell, shown below truck, with full theatrical lights and public address system.

Yes Sir! Anyway You Look at it...

MEYERCORD TRUCK DECALS will do a lasting low-cost advertising job!

Utilize the *free* advertising space on the tops, sidepanels, visors, backs and cab doors of *your* trucks...with weather-tested Meyercord Truck Decals. They're durable, washable, easily applied.

This modern method of truck decoration and lettering is economical to use for a dozen trucks or a thousand! Products, trademarks, slogans can be reproduced in any size, color or design at a fraction of handpainting time and cost. Overnight speed of application of Meyercord Truck Decals keeps your trucks "on the street". Investigate this modern method of truck decoration...for your new fleet. Designing service free. Please address all your inquiries to Department 32-10.

FREE! TRUCK VISUALIZER

Contains helpful hints on lettering, decorating; with outline diagrams for experimental designing of many body types—from panel deliveries to vans and tank trucks. Send for your free copy... TODAY!

THE MEYERCORD CO., 5323 WEST LAKE STREET • CHICAGO 44, ILLINOIS

ODT • OPA • WPB NEWS

OPA Issues Price Ceilings On Late Model Army Trucks

A schedule of "when new" prices for use in calculating ceiling prices on used 1942, 1943 and 1944 model military motor vehicles has been issued by the Office of Price Administration to facilitate pricing of these vehicles.

The percentages applied to "when new" prices are the same as those provided for used civilian commercial motor vehicles. For 1943 and 1944 vehicles, OPA allows 81 per cent of the new price when sold on an "as is" basis, and 103 per cent of the new price when sold on a warranted basis. For 1942 models, ceilings will be 72 per cent of the new price when sold "as is," and 92 per cent of the original price when sold on a warranted basis.

WPB Added 190,000 Tires to September Quota

Substantial additions to the September truck tire quotas were allocated to OPA by WPB to help meet heavy demands for bus and truck tires without increasing backlogs of unfilled applications.

WPB provided the additional truck tires when a rush of applicants for small truck tires threatened to increase the backlog by the end of September to nearly 200,000. While the increased allocation did not take care of all approved applications on file for small truck tires, it did provide tires for most of the applicants.

Original September quotas provided 386,862 small truck tires and 200,000 truck tires size 8.25 and larger. The supplemental WPB allocations consisted of 140,000 small size truck tires, 7.50 and under; and 50,000 truck tire size 8.25 or larger.

OPA distributed the increased quotas among all regions in proportion to the regions' original September truck tire quotas.

WPB Automotive Council Dissolves

The dissolution of the Automotive Council for War Production as of October 1, has been announced by its president, Alvan Macauley. The decision to disband this nationwide organization of automotive companies was as purely voluntary as had been the decision that motivated its creation almost four years ago, Mr. Macauley said.

Formed in the dark hours of the nation's grave peril immediately after the attack on Pearl Harbor in December, 1941, the Automotive Council embraced a total of 654 manufacturing companies. Its membership represented the pooled mass-productive know-how of all of the nation's manufacturers of motor vehicles, in addition to most of the manufacturers of automotive bodies, trailers, automotive parts and accessories, and the major producers of automotive tools and dies, jigs and fixtures, and special purpose machinery.

This combination of industrial talent, created for the sole purpose of

(TURN TO PAGE 105, PLEASE)

ODT—OPA—WPB

(CONTINUED FROM PAGE 102)

implementing the nation's defense with the total productive power of the automotive industry, is estimated to have been responsible for about one-quarter of the national output of weapons and materiel.

Farm Transportation Committee Dissolved by ODT

A total of 1036 agricultural industry transportation committees established to conserve commercial motor vehicle transportation of dairy products, perishable and seasonal farm products, livestock and poultry will be dissolved on Nov. 1, 1945, by OPA.

With the announcement, ODT pointed out that though agricultural industry transportation plans set up by these committees, and through mileage reductions made in ODT certificates of war necessity issued to farmers, savings of over 653,000,000 truck miles were made annually. Savings under agricultural industry transportation plans amounted to 223,500,000 truck miles annually, and mileage reductions in certificates of war necessity controlling the operation of about 1,600,000 farm trucks effected savings of more than 430,000,000 truck miles annually, ODT estimated.

Stickel Leaves ODT to Join White

The resignation of H. Richard Stickel, property operations division director, effective Oct. 1, has been announced by Guy A. Richardson, director of the Highway Transport Department of the ODT. Mr. Stickel will become affiliated with the White Motor Co., Cleveland, Ohio.

Mr. Stickel joined the ODT as executive assistant to the director of the division of motor transport in March, 1942. When the motor transport and local transport divisions were consolidated in June, 1944, he became executive assistant to the director of the highway transport department. He was appointed to his present position in October, 1944.

Prior to entering the ODT, Mr. Stickel was district director of the ICC's bureau of motor carriers in charge of the Delaware, Maryland and Eastern Pennsylvania district. He entered public service in 1919 with the engineering division of the Pennsylvania department of highways. In 1925 he assisted in the reorganization of the Pennsylvania state bureau of motor vehicles, becoming its director in 1930. From there he went to the ICC in 1936.

ODT Closes Seven Field Offices

The seven field offices of the transport personnel division of the Office of Defense Transportation closed on Sept. 20, 1945. These offices are located in New York City, Cleveland, Kansas City, Denver, San Francisco and Portland, Ore.

All transport personnel matters will now be handled directly through the Washington office.

Major J. E. Keller Urges Removal of Interstate Barriers

The motor industry was urged to act promptly in dealing with the problem of interstate barriers by

(TURN TO NEXT PAGE, PLEASE)

ODT—OPA—WPB

(CONTINUED FROM PAGE 105)

Major Joseph E. Keller, ODT advisor on state barriers for the Office of Defense Transportation, in an address at the annual meeting of the American Trucking Assns.

Major Keller reviewed accomplishments in the elimination of state trade barriers during the war years and discussed the emergency formula worked out to aid war-essential transportation by the Federal-State conference on state restrictions called by President Roosevelt in May, 1942. He stressed that all unjustifiable impediments to highway transportation have not yet been eliminated.

F. S. Crawford Heads Cleveland Transport Office

F. S. Crawford has been appointed regional director of Region 3 of ODT Highway Transport Department, with headquarters in Cleveland, Ohio. Mr. Crawford formerly owned and operated the Crawford Transport Co. in Ashland, Ky. He succeeds R. D. Thomas, regional director at Cleveland since 1942, who resigned to return to the Firestone Tire and Rubber Co.

Carroll Brown Acting Director Materials & Equipment ODT

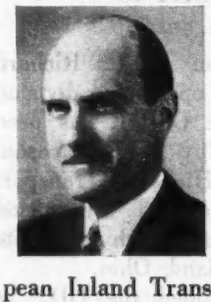
Carroll Brown, assistant director of the Division of Materials and Equipment, ODT, who came from Cleveland to assist the late Joseph B. Eastman when he was Federal Coordinator of Transportation, has been named acting director of that division, succeeding H. H. Kelly.

Truck Trailer Group Agrees with Property Disposal

The Truck Trailer Industry Advisory Committee at its first meeting recently held with representatives of the SPB, the Army, Navy and other government agencies reviewed the programs connected with the disposal of government-owned trailer parts that have been or are about to be declared surplus.

It was generally agreed that the disposal procedures currently in operation, namely through regular trade channels, would have no serious effect on the industry.

Kelly Named A Representative European Inland Transport



The resignation of H. H. Kelly as director, Division of Materials and Equipment, ODT, and his appointment by the Provisional Organization for European Inland Transport as its Washington Representative has been announced. Mr. Kelly took his new post on Sept. 8.

Before going to ODT in 1941, Mr. Kelly's activities included service as first automotive trade commissioner to Europe for the Department of Commerce, as organizer of the Motor Carrier Safety Regulations of the Interstate Commerce Commission and service with the Central Motor Transportation Committee of the Council of National Defense.

(TURN TO PAGE 180, PLEASE)

FOR SAVING GAS, TOO IN YOUR FLEET

26 Basic Designs

of Sealed Power Piston Rings

When you give all your attention to oil waste, you're only thinking of half the job. Compression rings stop blow-by (waste of gasoline and of power)—which is also important. Both oil rings and compression rings must be right for balanced performance—and balanced performance is what you get from Sealed Power Individually Engineered Ring Sets, selected from twenty-six (26) basic designs of rings. Each set is specifically engineered to do the best possible job in a particular engine. Sealed Power has been refining these sets six years—has been producing rings for car, truck and engine manufacturers 34 years. For balanced performance, saving gas as well as oil, and increasing power and engine life—re-power with Sealed Power motor parts. Sold by America's Leading Distributors. Sealed Power Corporation, Muskegon, Michigan and Windsor, Ontario.

Piston Rings, Pistons, Cylinder Sleeves, Piston Pins, Valves, Water Pumps, Bolts, Bushings, Tie Rods, Front End Parts.

Keep your war bonds! Get $4 for $3!

SEALED POWER PISTON RINGS

BEST IN NEW TRUCKS! ★ BEST IN OLD TRUCKS!

INDIVIDUALLY ENGINEERED

THE POSTWAR DRIVER

(CONTINUED FROM PAGE 94)

will be such that any proposals made in good faith by his superior will be considered in the light of that increased intelligence.

Such a person, I am certain, can respond to a feeling of pride in the kind of job he does. Furthermore, such an individual can be acquainted more easily with the purpose of the company he works for and its general policy. In other words, he can more readily be made to feel a part of the company.

Such a person also is able to appreciate that his failure due to carelessness to arrive at a certain time with his load may cause a great deal of trouble and hardship, perhaps, to many hundreds of people—either because his delivery is dependent on keeping manufacturing lines running or the well-being of the community may be affected, to some degree, by his not arriving.

It would, therefore, seem that if drivers now and in the future are going to be viewed against a selective background demanding higher intelligence and a better understanding of general living conditions, that it will be possible to ask him to accept a greater degree of responsibility for the equipment than has been possible in the past. It is, however, of vital importance that the degree to which this responsibility should be assumed by the driver must be so well defined as to leave no room for doubt in his mind as to just what is expected of him.

Our experience in the more regular operations such as found in factories has shown us very clearly how important it is to define the area of responsibility. Any misunderstanding or overlapping invariably causes a breakdown in the system. This also means that it is necessary for the management side of things to understand very clearly just wherein his responsibility fits better into their business. Obviously it will not be identical in all operations though, naturally, there will be a great deal that must be assumed as a common responsibility.

Area of Responsibility

THE driver, in many cases, is the only real contact that the operating company has with customers and the public. It is, therefore, essential that this be realized and the driver must, therefore, be equipped both mentally and physically to make a good impression wherever he makes contacts with the outside world. He also is the guardian of safety, as far as the public is concerned, and he must be willing to be charged accordingly with his responsibility in this respect.

A lot of the things that one would ask a driver to do would be recognized as no more than common sense, if the drivers selected are carefully screened ahead of time. A driver, I think, will appreciate very definitely that a training program that acquainted him with the primary workings of a truck and the details necessary to check in the event of trouble is, as far as he is concerned, directed towards helping him in case he runs into difficulty after he has left the shop. Certainly, he must not be allowed to think that he is assuming

(TURN TO PAGE 110, PLEASE)

CASITE

MAKES HORSEPOWER LEAP TO LIFE!

BETTER AND SMOOTHER PERFORMANCE ALL-YEAR-ROUND

Get those motors ready for winter...with Casite. Use it to avoid undue "winter wear". . . as well as for easy starting and sludge-free power.

For passenger cars and small trucks, a pint in the crankcase every oil change, or every 1000 miles. For larger units and Diesels—10% of crankcase capacity.

WHAT CASITE DOES

ALL THE TIME—

- **Reduces formation of sludge and gum.**
- **Frees sticking valves and rings.**
- **Carries oil to close tolerance areas.**

AND IN WINTER—

- **Retards congealing of oil.**
- **Gives quick starting, even below zero.**
- **Speeds up lubrication on cold starts.**

THE CASITE CORPORATION, HASTINGS, MICHIGAN

THE POSTWAR DRIVER

(CONTINUED FROM PAGE 108)

any responsibilities that normally should be taken over at his company base by some other department.

Responsibility for Vehicle

IT WOULD, however, seem reasonable to ask him before he leaves to make certain detailed checks. In the general sense, he should be asked to have an understanding of the correct starting of engines under all atmospheric conditions; the correct taking off of the vehicle such as handling intelligently clutch, transmission, etc.; that he be fully aware of good road practice in the interests of safety and conservation of tires, brakes, etc.; that he understand the proper degree of care to take while on route; and that wherever it becomes necessary to stop, that he understand the correct method of parking his vehicle not only against the contingencies of an accident but also with respect to the general handling of the vehicle.

It would also seem very reasonable that he should be trained to make intelligent reports of conditions of all the vital transmission and braking parts. This automatically insures longer life, and certainly it is going to prevent many road failures. After all, most people react the same with respect to their personal safety, and this aspect can and should be stressed to get him interested in seeing that as far possible, he will take steps to examine visually and by prescribed methods, the essential driving and stopping parts of his vehicle before starting on a journey.

Quite apart from the fact that the mechanical staff is supposedly responsible primarily for seeing that all these are in good shape, nevertheless, he can be made to see the lack of intelligence if he started on a journey without recognizing the value of an inspection of the primary fundamentals before starting off.

In some respects the locomotive engineer is a typical case of where, while the shop mechanics and the greasers and other people have presumably checked his engine, no locomotive engineer would start off his day without inspecting the general condition of his locomotive. Of course, all this is against the background of realizing that a schedule has been set up for the driver and that paid time is being allowed for this inspection to be made.

Over-inflation of tires, sagging springs and loose steering connections can be checked very quickly. Certainly oil leaks can be very easily detected by a glance under the vehicle when a vehicle is stored in a well-run garage with a clean floor. Common sense will make a lot of this automatic anyway, but, again, it must be stressed that this work should be clearly defined. Furthermore, water, oil, lights, fan belt are all matters that a driver should be interested in seeing are right. Just as it seems sensible and reasonable to make these necessary checks before leaving, certainly a driver should also be interested in seeing whether the loading that is taking place has not imposed too great a load on him and the vehicle by improper load distribution.

(TURN TO PAGE 112, PLEASE)

THIS VERDICT IS RENDERED ON YOUR INABILITY TO STOP

He didn't know how to read his speedometer!

It is really very simple. Whether a truck driver, salesman, teen-age or week-end motorist it should have been learned in school.

Just multiply speedometer reading by 1½.

35 M.P.H. × 1½ = 53 travel feet per second

50 M.P.H. × 1½ = 75 travel feet per second

That's how to read your speedometer because it is your travel distance in feet per second.

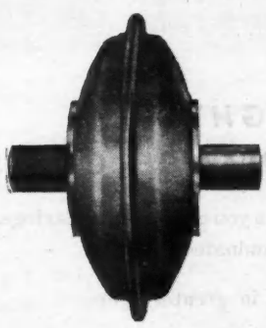
Reaction, fatigue, and leg pressure all decrease your ability to stop safely . . . especially at higher speeds.

You travel fast – you must stop quickly.

When you add Vacdraulic Power Braking to the hydraulic system of any car or truck it gives that feather touch, instant eye-to pedal-to brake action and that extra margin of safety essential to driving in congested traffic or over highways.

Vacdraulic accomplishes power braking force without action lag, and rods or links to get out of adjustment.

See your Vacdraulic Distributor or write us for details.



VACDRAULIC MODEL 180
For Master Cylinders up to 1¼" diameter

VACDRAULIC MODEL 240
For Master Cylinders 1¼" and 1½" diameter

VACDRAULIC

THE BRAKE POWER BOOSTER

KELSEY-HAYES WHEEL CO., DETROIT 32, MICH.

Sold to Automotive Distributors by

EMPIRE ELECTRIC BRAKE CO., Newark 7, N. J.

VACDRAULIC is a Trade Mark of Empire Electric Brake Company

THE POSTWAR DRIVER

(CONTINUED FROM PAGE 110)

Education May Be Problem

THE division of preparation as compared to handling trouble on the road should be quite marked in that the educational job which will enable him to analyze what is happening on the road is a much bigger one than that of checking over to see whether the vehicle is in good shape before starting. It must also be remembered that the driver will resist the educational effort on your part just as we as youngsters resisted education in our early days and perhaps still do. Self-interest in the end must rule and, therefore, the whole purpose of any instruction should be made against this background.

This education, as far as possible, should be of the primary type, i.e., not such as to require instrumentation to detect his troubles. However, one can expect a good driver to hear well, see well and have a good sense of smell.* With his senses in very good working order he certainly can detect and find where the major troubles may lie. If he is properly exposed to typical cases in his training program, he can spot very readily what the trouble is. Such ability to do such things again brings up the question of pride and the fact that he has the "know-how."

If that alone can be the motivating force, it would be sufficient to carry him through a great deal. He doesn't have to be told that exhaust fumes are dangerous and, therefore, it may well be that we can similarly impress him with the necessity of checking other things that can prevent accidents which are equally disastrous such as leaking carbon monoxide.

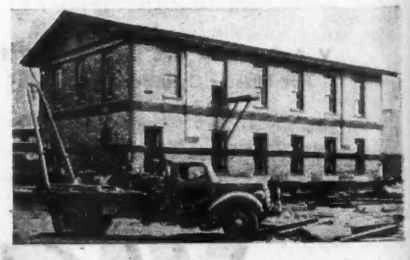
There are obviously going to be two schools of thought—one which wants the driver to know nothing about the truck, he should just drive—the other, that of wanting the kind of driver who will be interested in assuming responsibility that is clearly defined and who will be willing to take advantage of an educational program which cannot fail to make him a more intelligent, useful employee.

* See Mr. Cass' article "Drivers Can Shoot Trouble by Eye, Ear, Nose and Feel" in June, 1943 issue, page 40, or write the Editor for a free reprint.

END

(Please resume your reading on P. 96)

Bob Dunn, for the past five years with Macmillan Petroleum Corp., has been named assistant to the general sales manager of the Corporation's Ring Free oil division



It's hard to stump a truck with any kind of a moving job, these days. This two-story brick building, for instance, was recently moved, intact, 330 ft. by the Mack truck shown in the foreground. L. A. Bang, head of the Bang House Moving Co. of Houston, Tex., who handled this ticklish job, said it was the first time in his long years of experience that he was called upon to tackle a two-story brick building

Soft Pressure does it...

Soft pressure oil-control means less wear on the cylinder walls. And that means a longer-lasting engine . . . Very important today when it's almost impossible to get a new one.

That's why so many Steel-Vent "motor engineered" sets are being installed in rebores as well as in the tapered jobs.

SOFT PRESSURE DOES IT—IN REBORES, TOO

From the deep south a big Steel-Vent user writes: "We have been using Hastings Steel-Vent Piston Rings on all rebore jobs for quite some time. We have found, after boring a block, that it takes much less time for the Hastings Ring to get set to the block than any other ring that we have ever used. In our experience we have found that Steel-Vents will give us more miles with less cylinder wall wear and less oil consumption on any make of car or truck."

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN

Hastings Mfg. of Canada Ltd., Toronto

Buy Victory Bonds

HASTINGS STEEL-VENT

PISTON RINGS

U S PAT 2,148,997

TOUGH ON OIL-PUMPING GENTLE ON CYLINDER WALLS

GASOLINE INJECTION

(CONTINUED FROM PAGE 90)

9. Less susceptible to vapor lock.

With fuel injection, vapor lock does not occur as readily as with a carburetor because higher fuel supply pressures are used.

10. Automatic fuel shut-off during deceleration.

If a manifold pressure control as mentioned in Item 8 were used, fuel would automatically be shut off during deceleration periods. This would contribute substantially to the operating economy of the engine. It would also provide the distinct advantage of eliminating much of the disagreeable odor usually expelled by trucks and buses while decelerating, without the application of any special de-gasser device.

11. Impervious to vehicle attitude.

Gasoline injection engines are completely immune from the effects of vehicle attitudes and accelerations, whereas in the case of engines having float-bowl carburetors these factors can have considerable adverse influence, as, for example, on crowned macadam roads.

12. Engine height reduced.

In the matter of over-all height, engines having fuel injection can compare very favorably indeed with engines having down-draft carburetion. Height is, of course, an item of much importance to the truck designer. Substantial reductions can have far-reaching consequences in the design of the vehicle.

13. Permits manifold separation.

With fuel injection, the intake and exhaust manifolds can be situated on opposite sides of the engine because a heated intake is no longer either necessary or desirable. The separation is advantageous not only in increasing volumetric efficiency but also in facilitating cylinder head manufacture through improvement of the cores.

Disadvantages

AMONG the disadvantages which may be considered in the application of gasoline injection equipment are:

1. Higher initial cost.

It is obvious that injection pumps, master controls and spray nozzles will always be more expensive initially than a carburetor.

2. More complicated.

A carburetor for automotive service is a comparatively simple device and gasoline injection equipment must be considered as more complicated.

3. Higher maintenance cost.

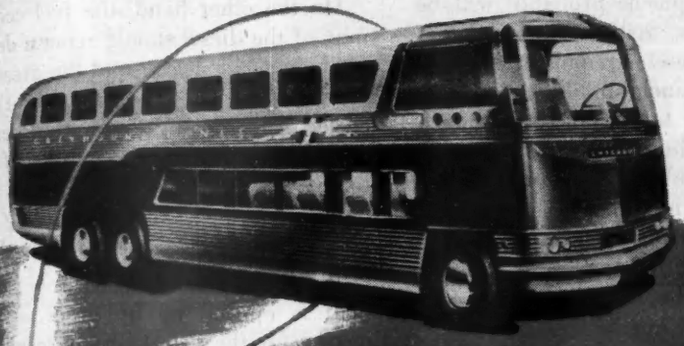
Due to its being more complicated and expensive, it is possible that the maintenance cost of gasoline injection equipment will be higher than that of a carburetor. This is debatable, however, because carburetors do require frequent adjustment in the interests of best fuel economy.

4. Most suitable for engines initially designed for gasoline injection.

This item has been placed in the list of disadvantages so as to emphasize the fact that mere application of a gasoline injection system to an engine does not automatically provide all of the benefits which will come to be identified with fuel injection. Engines should be specially

(TURN TO PAGE 116, PLEASE)

GREYHOUND SPECIFIES FOR ITS NEW "Super Coach"



AUTO-LITE Steelductor SPARK PLUG WIRES

Buy Victory Bonds

Choice for Power, Efficiency, Economy

Greyhound designed its new compartment super-coach to set new standards in comfort, safety and close adherence to post-war time-tables.

Typical of the quality specified throughout this record-setting vehicle is Auto-Lite Steelductor spark plug wires. The outstanding record of Steelductor Wire for dependable performance has been established on highways the world 'round.

For low cost operation and maintenance, put Steelductor spark plug wires on every unit in your fleet.

THE ELECTRIC AUTO-LITE COMPANY
TOLEDO, 1, OHIO *Merchandising Division* TORONTO, ONTARIO

TUNE IN "EVERYTHING FOR THE BOYS" STARRING DICK HAYMES — EVERY TUESDAY NIGHT — NBC NETWORK

AUTO-LITE *Automotive* WIRE and CABLE

GASOLINE INJECTION

(CONTINUED FROM PAGE 114)

designed to get full value from this type of equipment. The virtual necessity for redesign may be, for the moment, a disadvantage.

Comparison with Diesel Injection

Undoubtedly, many will mentally compare a gasoline injection engine with a diesel engine. While the application of the injection equipment is obviously directly comparable, it can be pointed out that gasoline injection equipment probably will be lower in its first cost than corresponding diesel equipment. This is due to the much simpler nozzles required, also to the fact that much lower injection pressures are used.

The manifold pressure type of control need be no more expensive than the governor used on a diesel engine. In addition to this, the engine itself could be lighter and less expensive than a diesel because the higher firing pressures of the latter require a sturdier construction.

On the other hand, the fuel economy of the diesel should remain definitely superior because of the greater thermal efficiency of its operating cycle. And, in any event, the diesel can burn a cheaper fuel satisfactorily.

Two-Stroke Engine Benefited

It appears that an entirely new field is opened up by gasoline injection for the two-stroke-cycle gasoline engine. The economies which are inherent in the construction of engines operating on the two-stroke-cycle might do more than offset the cost differential between injection equipment and the carburetor. The two-stroke engine, as a gasoline engine, is currently in great disfavor only because of its wastefulness of fuel during the scavenging process, its relative inefficiency at fractional loads and speeds, and its poor idling. These are precisely the disadvantages which would be eliminated by the use of injection equipment.

The two-stroke gasoline engine is made practicable.

The application of gasoline injection equipment to truck and bus engines appears to involve advantages which will far outweigh the prime disadvantage of initial cost. Important gains in both performance and economy can reasonably be expected.

END

(Please resume your reading on P. 92)

Marking the first time that furniture has been flown across the United States as a routine moving venture, this huge American Airlines freighter, Model 39, dwarfs the two big Mack trucks that moved the cargo right to the loading stage of the ship. The 18,000 lb. of bulky furnishings from four 6-room apartments filled 3000 cu. ft. of cargo space on the 4-engine experimental airship which left New York's LaGuardia Field late in the evening and unloaded in Los Angeles early the next morning. The big ship flies nine tons of fruits and vegetables to eastern cities four or five times a week and carries a variety of cargoes on the return trip

A 30-TON TRUCK can be Steered LIKE THIS

with VICKERS Hydraulic POWER STEERING

Just two fingers turn the steering wheel and the front wheels follow *exactly* . . . the Vickers Hydraulic Power Steering System does the work instead of the driver. And this heavy truck steers just as easily over rough ground as on smooth pavement. No shock load can be transmitted from the front wheels back to the steering wheel . . . thus relieving the driver of considerable fatigue resulting from constant road shocks he must absorb with the conventional mechanical steering gear.

Among the many other advantages of Vickers Hydraulic Power Steering are: easy application to existing chassis designs, automatic overload protection for both steering linkage and hydraulic system, wheel "fight" is impossible, automatic lubrication, and 14 years of successful operating experience on trucks, buses, road machinery, etc. For all the facts about Vickers Hydraulic Power Steering, ask for the new Bulletin 44-30.

VICKERS *Incorporated* • **1418 OAKMAN BLVD.** • **DETROIT 32, MICHIGAN**

Application Engineering Offices: CHICAGO • CLEVELAND • DETROIT • LOS ANGELES • NEWARK
PHILADELPHIA • ROCHESTER • ROCKFORD • TULSA • WORCESTER

VICKERS Hydraulic POWER STEERING is Simple . . . Compact . . . Easily Installed

QUIZ ANSWERS

CCJ Quiz on Page 92

1. d. Your carburetor requires 7000 to 10,000 gal. of air for every gallon of gasoline burned.

2. a. Sulfur and molasses are two of the prime ingredients of Ethyl fluid. Sulfur, in the form of sulfuric acid, is used to extract bromine from sea water. Molasses is transformed into alcohol and then into ethylene. The bromine and ethylene form ethylene dibromide, one of the essentials of Ethyl fluid.

3. d. This one is really too easy. Metals expand when heated and contract when cooled. As a result, a truck is more than an eighth of an inch longer on a hot summer day than on a cold winter day.

4. c. Manganese steel, although it contains more than 85 per cent iron, is practically non-magnetic.

5. d. The Beaufort scale used by the Weather Bureau classifies winds with a velocity about 75 m.p.h. as hurricanes.

6. c. The heat generated would be sufficient to take care of four bungalows.

7. a. Even disregarding its lack of strength, the gold would add too much dead weight to be practical. Gold is considerably heavier than lead and more than seven times as heavy as aluminum.

8. b. You'd be able to reach the top in a minute, with seconds to spare. Each piston of a small truck at 40 m.p.h. will travel almost 1500 ft. up and down every minute.

9. d. Carbon-dioxide in water makes carbonated water, commonly known as soda water. However, don't say we advised you to hold a jigger of Scotch at the end of the exhaust pipe and expect Scotch and Soda.

10. d. The purpose of a cooling system is not to keep the engine cool, but rather to keep it from getting too hot. Engines are designed to operate best when the water leaving the water jacket is from 160 to 200 deg. Fahr., but well below the boiling point.

END

(Please resume your reading on P. 94)

O.D.A. Oberg, left, managing director of Thatcher & Oberg Ltd., timber merchants and operators of a large truck fleet in Sydney, Australia, discusses postwar plans for truck production with T. R. Lippard, right, president of the Federal Motor Truck Co.

This big Mack diesel makes the task of hauling the greatest liquid load ever transported over highways a simple matter for Detroit's West Oil Co. The Mack tractor, nicknamed Big Bob, hustles the Butler-built oil transport tank unit and its capacity load of 12,000 gals. over the road on four tandem axles and a king's ransom in tires, 34 in all


BLACKHAWK ··· BIG Name in Hydraulic Jacks
BLACKHAWK ··· BIG in Performance
BLACKHAWK ··· BIG in Dependability
BLACKHAWK ··· BIG in Utility
BLACKHAWK ··· BIG in Safety
BLACKHAWK ··· BIG in Preference
BLACKHAWK ··· BIG in Leadership
BLACKHAWK HYDRAULIC JACK
CAPACITIES — 3, 5, 8, 12, 20, 30, and 50 Tons
When you need a jack, buy the best — buy Blackhawk from your distributor. A Product of BLACKHAWK MFG. CO., Department J11105 MILWAUKEE 1, WISCONSIN.
S-4 the world's leading all-purpose 4-ton service jack.
BLACKHAWK
THE BIG NAME IN HYDRAULIC JACKS

JOE DOPE

(CONTINUED FROM PAGE 77)

a warrant officer. Confidentially, this was because I am such a huge success.

My semi-monthly cartoon posters, which re-enact and caricature the malpractices reported from the field, now appear in every post, camp and station both in this country and abroad. I'm a pretty popular guy and Will have to move fast to keep up with the demands for my services. Though I belonged exclusively to the Ground Forces at first, I became so popular that soon the Air Forces requested a separate series to be devoted to Air Force Ordnance. I also appear as a comic strip in *"Army Motors."*

The Ordnance Department has put me into training manuals and catalogs. I have "acted" in slide films, which are used in preventive maintenance lectures at the Aberdeen Proving Ground. This year I appeared in the first of a new poster series for the War Department Safety Council.

Today, my sidekick, "Sergeant Shortpants," and I have an Army following all over the world and hold considerable sway over the preventive maintenance field. We are welcomed alike by yardbirds and their exasperated sergeants, who hope that our next poster will put an end to some problem of carelessness which has plagued the post.

Every idea, every problem I portray is based on actual incidents, on information collected from the field. To keep me busy, Mr. Eisner gathers material on his visits to Ordnance posts, where he discusses with officers and enlisted men their PM problems.

Officers Say Results Effective

WHILE no one knows exactly how effective I've been, an informal survey made last year brought out a very positive response from officers in the field. As a check on the posters' usefulness, a questionnaire was sent to Ordnance company commanders. Here are some typical replies:

"The posters are considered very beneficial and of inestimable value in driving home the salient points of the subject covered."

"This type of poster catches the eye, where the men would pass a more serious type."

"There has been no single series of posters arousing the interest and comment that the Joe Dope posters have, and undoubtedly their particular brand of humor drives home the intended lessons."

If enough of these letters come in I might get the D. S. M.

GI Reaction Good

ACCORDING to the results of the questionnaire, these are the reactions of the men when a new poster arrives:

"Always like to see what Joe Dope is up to to!"

"They pick out a man to whom the poster applies, and his name is written in."

"Offenders find themselves compared to Joe Dope."

"The men say, 'Ain't it the truth!' "

(TURN TO PAGE 123, PLEASE)

JOE DOPE

(CONTINUED FROM PAGE 120)

"While it's funny, it makes you think."

And in answer to the suggestion that perhaps the posters could drive their points harder by foregoing humor and showing the actual results of carelessness and mishandling, most of the replies can be summed up in this one:

"Keep 'em humorous! Men remember pleasant things, too. They get the blood and gore in the movies and in the papers seven days a week."

Figures on vehicle disability after the introduction of a PM program give some clue to the effectiveness of the whole program. It was found, for example, at AAF headquarters in the India Burma theater that over a period of several months after PM was instituted, vehicle disability percentages moved steadily down.

In the 26th Infantry Division, a preventive maintenance program was undertaken to overcome low motor morale which was resulting in too many disabled vehicles. At the beginning, 3 per cent of the division's general purpose vehicles were listed as disabled for four or more days. Eight months later, only one tenth of one per cent were so listed.

In both instances, it was the men behind the wheel who held the key to preventive maintenance. Results were accomplished by making the men "maintenance-minded" and by making the officers aware of their preventive maintenance responsibilities, according to field reports.

Psychological Factors

MAKING and keeping them aware! This is the psychological area where I do my work. I caution the using troops constantly; I stick in their minds.

Every possible bit of service can be extracted from equipment only through a constant awareness of the need for preventive maintenance. Yet when men have been reminded over and over of the same idea through lectures, films and manuals, eventually their response becomes dull. This is where I come in. Soldiers may laugh at me in action, but they hold the point.

END

(Please resume your reading on P. 78)

Million Trucks 10 Years Old

A million trucks now in service are more than 10 years old, according to a report of the American Trucking Assns. Almost 200,000 trucks are 1928 models or older, while 1941 models account for more than 14 per cent of all trucks now in operation, the ATA report says.

New Model Ford Due

A Sportsman's convertible, a natural blending of the station wagon and the convertible, will be in limited production soon after the public announcement of the 1946 Ford models, J. R. Davis, director of sales and advertising of the Ford Motor Co., has announced.

Arrow Distributor for Ivalites

Arnolt Motor Co., Warsaw, Ind., maker of "Ivalites," the flexible, automotive spotlight with fully rotating heads, has appointed Arrow Safety Device Co., Mt. Holly, N. J., as distributor of its automotive models.

CURB THE COWBOYS

(CONTINUED FROM PAGE 55)

Methods of Disabling Governors

THERE are two favorite and common ways to disable a governor. One is to jerk out the choke violently. This bends the butterfly valve, rendering it useless to regulate engine speed. The other way is to take a long screwdriver and push it down the air intake in a downdraft carburetor. This also disables the butterfly valve. These two methods do not interfere with the seal.

The pushing of a screwdriver down into the valve is not enough. The shaft has to be bent enough so the valve will remain open. A tire tool or a hammer applied to the screwdriver does the trick neatly. If neither is available, they hit the screwdriver with a beer bottle.

But every truck line finds its tractors coming in with governor seals broken—nobody ever knows how it happened.

One Fleet Uses Padlock

TO STOP tampering with seals, a large motor express line in North Carolina replaced the seal with a padlock. In order to use the padlock, they had to make a special encircling bracket. No one ever broke the padlock but it did not stop tampering with the valve by using a stick or a screwdriver.

Tampering with governors causes a lot of hidden damage. One of the best ways to get a little more out of a vacuum-type governor is to crack the choke a little and increase the richness of the mixture. This gives a little more speed and power but when the choke is pushed back and the governor again takes charge, the engine is usually loaded up.

This loading up thins out the oil, causes burned valves and many times is the direct cause of burned out bearings. The extra gasoline in the engine washes the oil off the pistons, allowing them to run dry for a short time.

Fleet Switches Drivers

ONE large operator in the South couldn't keep governors working on a lay-over trip which was made every day by two trucks. Finally he arranged for the drivers to change trucks at a midway point.

One driver left point A and drove halfway and the other driver left point B and drove to the halfway point. If neither of them tarried or dilly-dallied, they would arrive at the exchange point within 10 minutes of the appointed time. There they changed trucks and each drove back to his point of origin.

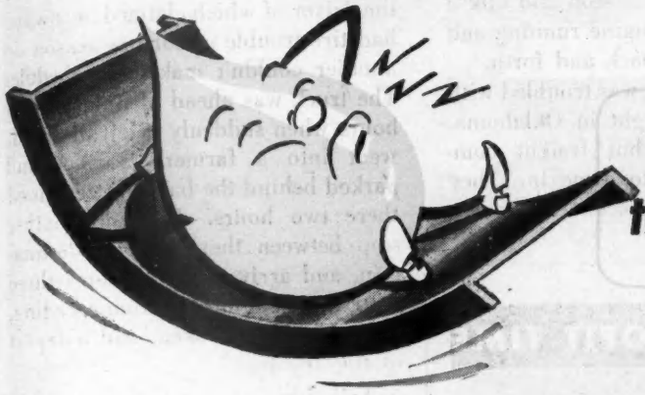
This has worked perfectly because if one driver gets to the exchange point on time and has to wait for the other driver, it makes him late in getting back home just the amount of the wait. Consequently, he eats out the late driver. This self-check has worked wonders and has eliminated all trouble from that route.

Recorders Also Subject

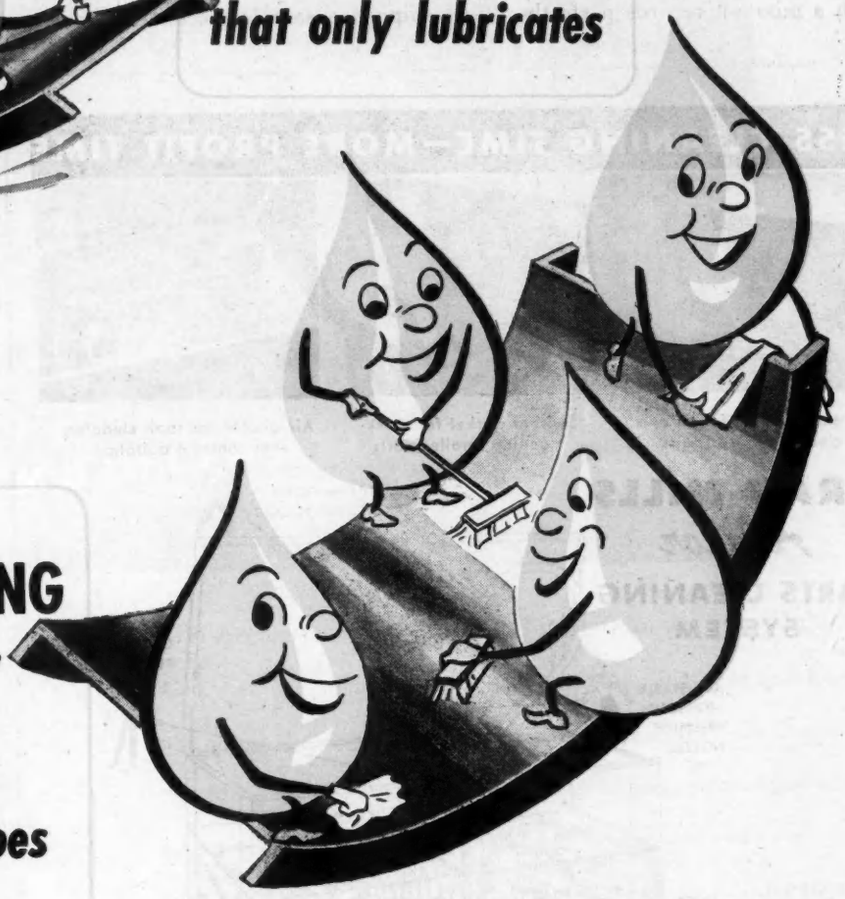
RECORDERS, too, it seems do not keep the truck wheeling if the driver wants to play. One type of recorder is portable. Vibration keeps it going. The portable type can be carried in the pocket of the driver when he leaves the truck and it ap-

(TURN TO PAGE 126, PLEASE)

What kind of Oil are your bearings being fed?



A LAZY OIL
that only lubricates



... OR HARD-WORKING TALPEX
that not only lubricates but does 4 extra jobs

1. Has high detergency. Helps keep carbon, lacquer and foreign particles from adhering to pistons and rings, valves, ports.

2. Has exceptional Oxidation Stability. Holds to a minimum the formation of sludge, lacquer and other products of deterioration.

3. Has low Carbon-Forming Tendency. Reduces ring sticking and wear. Lengthens engine life.

4. Is non-corrosive to alloy bearings. Protects all lubricated engine parts against corrosion.

• You may think you've "hired" the hardest-working oil in the world to lubricate your engines. Then bang! You're in hot water. That's the trouble with a lazy oil. Its laziness shows up *after* you use it. Then the damage is done. To avoid engine troubles caused by an oil that does only one or two jobs in your engines, switch to hard-working Talpex. It not only does a good job of lubricating, it does all of the *4 extra* jobs that must be done if your engines are to be kept perking at their efficiency peak.

If the oil you now use is not doing all these jobs, it's lazy—should be changed to hard-working Talpex. Ask the Shell man to show you why.

Shell Oil Company, Inc., 50 West 50th Street, New York 20, N. Y.— 100 Bush Street, San Francisco 6, Cal.

TALPEX

The All-Purpose, Heavy-Duty Lubricant
For trucks, buses, tractors, shovels, stationary and marine Diesels

SHELL

CURB THE COWBOYS

(CONTINUED FROM PAGE 124)

pears to record just as well as in the truck.

Another type is as much a part of the dash as the speedometer and oil gage, but it likewise depends on vibration to record. When the driver makes an unauthorized stop with this outfit, he pulls one wire off a spark-plug and leaves the engine running with a miss—it records perfectly.

An obsolete method was to jack up a wheel an inch from the ground and let it roll.

If a driver is using a tractor equipped with a permanent recorder and he just wants to stop and talk a bit, he leaves his engine running and rocks his vehicle back and forth.

Kansas City fleet was troubled with late arrival of freight in Oklahoma. Records checked but freight complaints continued to come in. They shipped a sample piece of merchandise on which leaving time and receiving time was checked and mailed back. It arrived with a four-hour delay.

A company car tailed the truck, the driver of which claimed he always had tire trouble or for one reason or another couldn't make the schedule. The truck was ahead of time for two hours when suddenly it left the road, went into a farmer's barnlot and parked behind the barn—it remained there two hours. It made another stop between there and its destination, and arrived in Oklahoma three hours late, engine hot from speeding, governor seals broken, and a report of tire trouble.

And this ends a tale to prove that a "loose nut" at the wheel can work untold damage—facts that have been ascertained from interviews with hundreds of fleet owners and maintenance superintendents, and drivers, too, in the states of Missouri, Kansas, Kentucky, Tennessee, North Carolina, South Carolina, Maryland, Virginia, West Virginia, Indiana and Illinois. But it's the same the country over.

END

(Please resume your reading on P. 56)

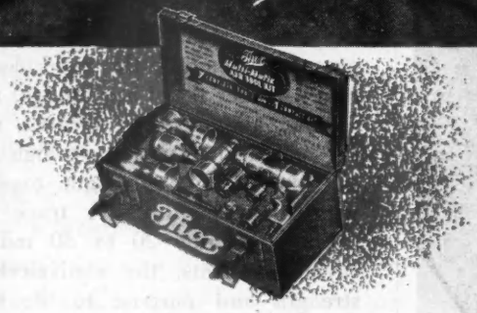
Interstate Vehicle Maintenance Not Under Labor Act

The motor-carrier exemption from maximum-hour provisions of the Fair Labor Standards Act contained in Section 13(b) applies to mechanics employed to repair and service trucks of a corporation engaged in hauling milk and petroleum products in interstate commerce. That is what the Pennsylvania Superior Court decided recently in the case of Say v. Prior Oil Co.

The plaintiff sued to recover overtime compensation and liquidated damages. The court ruled that, "in determining whether a carrier is subject to the provisions of the Motor Carrier Act respecting common and private carriers, ownership of the commodity transported is not the test, but the primary test is transportation for compensation." The act, said the court, is broad enough "to include all those who, no matter what form they use, are in substance engaged in the business of interstate or foreign transportation of property on public highways for hire."

YOUR COMPRESSOR

can make MORE MONEY for you . . .



SEVEN COMPLETE TOOLS are in the Thor Multi-Matic Kit . . . . ¼" and ½" Drill, Hole Saw, Grinder, Wire Brush, Sander and Polisher. Each is available as a unit, and any Multi-Matic tool can be changed into other tools with interchangeable attachments. Write for Catalog No. 80 or see your Thor dealer.

With a compressor as small as 3 H.P. you can use Thor Multi-Matic Air Tools . . . and get the advantages of easier handling and tremendous power that have long made air tools standard on factory production lines. Smaller and lighter, Multi-Matic tools get into hard-to-reach places. They have the power of electric tools *twice the size* . . . and with no parts to burn out, they bring savings in maintenance. Add greater safety and longer life and you will see WHY Thor Multi-Matic Air Tools save time and money on all automotive jobs!

INDEPENDENT PNEUMATIC TOOL COMPANY
600 W. Jackson Boulevard, Chicago 6, Illinois
New York Los Angeles

Thor PORTABLE POWER TOOLS

PNEUMATIC TOOLS • UNIVERSAL AND HIGH FREQUENCY ELECTRIC TOOLS • MINING AND CONTRACTORS TOOLS

RAYON CORDS

(CONTINUED FROM PAGE 57)

made by WPB Rubber Director Bradley Dewey in his Progress Report No. 5 (1944), in which he said, "When rayon is used in these large highway tires with varying percentages of Buna S, depending upon size, performance equal to that of prewar tires . . . can be expected." Pyramid's experience goes even further, however, demonstrating that when natural rubber tires again become available, truck operators can expect to get from one-quarter to a third more mileage from a rayon cord tire than from one of conventional prewar quality.

Saves $10,000 in One Year

WHAT this means in terms of savings in the annual tire bill is evident. Even a 10 per cent saving, resulting from an equivalent increase in tire mileage, would loom large in the mind of anyone who purchases tires in quantity. In the case of Pyramid, the 40 per cent additional tire mileage which they obtain with rayon represents a saving of more than $10,000 a year, based on 1944 expenditures for new tires. In other words, $10,000 worth of tires didn't have to be bought last year because with rayon cord a smaller number of tires does the work.

Rayon Inherently Stronger

THE reasons for the superior performance of rayon cord are fundamentally few. It is interesting to see how one leads to another. To begin with, the rayon filament or thread unit is unbelievably strong. The high-tenacity rayon used in tires is not only stronger than conventional cord but its tensile strength is even greater than that of structural steel. Like cold-drawn steel, the freshly formed rayon filament, much finer than a human hair (.005 in. compared to .003 in.), is stretched to bring about a molecular arrangement which powerfully resists pulling apart under tension. This plastic working of rayon is very similar to the more familiar metal-working processes, whereby the molecules of iron or other metal are brought into parallel alignment by forging, rolling or drawing, to impart high tensile and fatigue strength together with high ductility. A truck tire carcass contains 20 to 30 million rayon filaments, the equivalent in strength and purpose to the steel skeleton of a skyscraper.

Another reason for the strength of rayon in the form of tire fabric is that each filament is continuous throughout its entire length. Being a man-made fiber it can be made in uninterrupted lengths, whereas the natural cotton fibers have an average length of slightly oven one inch.

Rayon Has High "Hot-Strength"

PROBABLY the most important aspect of the strength of rayon is that it retains a high percentage of its strength when the tire gets hot. A heated tire becomes dried out, and it is this combination of dry heat which saps the life and strength of conventional cord. Its loss of strength through this "toasting" process has been estimated variously as from 30

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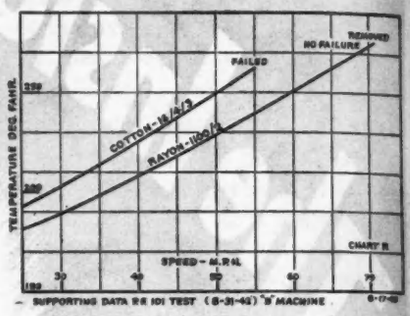
RAYON CORDS

(CONTINUED FROM PAGE 128)

to 45 per cent at a temperature of 250 deg. Fahr. By contrast, rayon loses only 12 to 20 per cent of its tensile strength at this temperature, according to numerous independent tests.

Tire manufacturers take advantage of this hot-strength by building the rayon tire with fewer cord plies, since an 8-ply rayon tire, for example, is equivalent in carcass strength to a 10-ply conventional cord tire. This important fact was brought out and verified by the Special Committee Investigating the National Defense Program in 1943.

This committee (then known as the Truman Committee) pointed out that this not only saved tire materials, permitting additional tires to be built, but also made a cooler running tire. H. LeRoy Whitney, then technical consultant to the WPB, testified at the hearings that, "the temperature of a tire at 40 m.p.h. increases 5 deg. Fahr. for each 1/32-in. of thickness. Accordingly, a 7.5 x 20 10-ply tire, which is 1.315 in. thick, will run 28 deg. hotter than an 8-ply rayon tire, which is 1.147 in. thick."



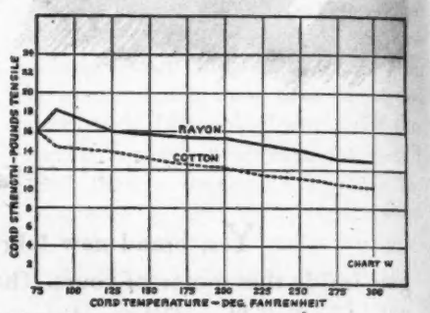


Chart at top, "Temperature Comparison," demonstrates the cooler-running characteristic of rayon cord. Chart above shows comparison of rayon and cotton cord in tensile strength

Thus the chain of related facts in rayon tire science points inevitably to the same conclusions found in the experience of the Pyramid fleet. Greater cord strength at high temperatures means fewer plies; fewer plies make a thinner tire, which in turn means a cooler tire; and this in its turn means greater mileage and less tendency to carcass failure.

Greater Recapability

MOREOVER, the increased durability of the rayon carcass means that it will take more recaps. Mr. Rosenthal has found that there is less assurance of success in retreading synthetic tires than natural, however. His records show an average about 15,000 to 20,000 miles per recap, some running as high as 30,000 but others as low as 500 miles. He attributes this spotty performance to differences in condition of the synthetic rubber at the time of recapping.

END

(Please resume your reading on P. 58)

IN ARMY proving ground tests, rayon-cord tires gave striking evidence of their ability to stand wartime duties. An important part of this evidence pointed out that rayon-cord synthetic-rubber tires were 330% better on long-distance supply work.

In another Army test where rough cross-country terrain exposed them to severe bruising and cutting conditions, they proved to be 93% better. While not made under normal road conditions, the tests indicate that reduced maintenance troubles may be expected from tires constructed with rayon-cord.

The scientific reason for this is that rayon's molecular structure and physical uniformity provide better heat dissipation, allowing a tire of the same thickness to run cooler by as much as 10°F. Also, rayon retains its tensile strength better at high running temperatures.

You benefit from fewer blowouts, bruises, cuts, abrasions, and sidewall breaks . . . principal tire maintenance problems. Important added benefits are longer tire life, lower operating costs, fewer delays, better mileage and greater safety on the road.

Source of data: Hearings before a Special Committee Investigating the National Defense Program, United States Senate—Seventy-eighth Congress, First and Second Sessions.

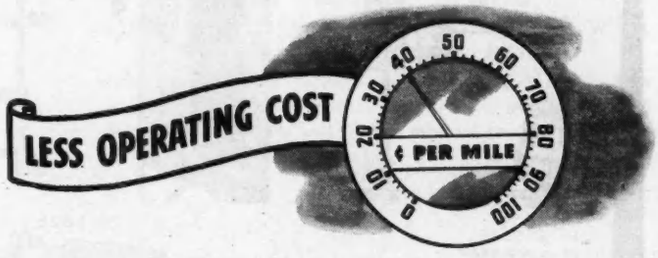
Less with Rayon Cord

"RAYON CORD TIRES REDUCE BLOWOUTS; TAKE OVERLOADS BETTER."—

Howard L. Willett, Jr., *Vice President, The Willett Company*

The Willett Company of Chicago, middle-western operators of a fleet of 1,000 trucks, tractors and trailers, and 100 suburban buses, have used rayon cord tires since 1938. Howard L. Willett, Jr., vice president, declares: "We have used rayon cord tires for the last seven years, even when we had to pay a premium on the first cost. Our records show that they are more economical in the long run. Due to cooler running, they take overloads better, reduce blow-outs, road service and other maintenance. We get better results on rayon cord tires no matter where we use them."

Less friction heat, higher tensile strength and greater uniformity of rayon tire cords mean more safety at high running speeds.



Rayon-cord tires give longer life, greater mileage . . . reduce impact failures, road delays, tire renewals.

AMERICAN VISCOSE CORPORATION

NEW PRODUCTS

(CONTINUED FROM PAGE 61)

needed. The extended one-piece socket shaft eliminates the necessity of extensions on regular work, allowing the quick, convenient use of only the socket on many jobs.

Immediately available in 3/8-in. drive, 1/2-in. drive and the 1/2-in. drive (heavy duty) for tire and brake work. A combination double-end reversible 3/4-in. and 13/16-in. socket is also available as a handy attachment that fits almost every passenger car and light truck rim and wheel retaining nut or stud screw.

Use Free Postcard For More Details.

P158. Vapor Injector Unit

The Aer-O-Gas Vapor Injector, an engine energizer developed by the Clay Estes Co., San Francisco, Cal., is said to give greater power and mileage and to improve starting of trucks and passenger cars.

The device consists of a glass jar containing water and a chemical. One wire is connected to the ignition switch and another to an adaptor which is mounted under the carburetor. When the engine is started, electrical energy passes down the two insulated electrodes inside the glass jar to a positive and negative plate. The Aer-O-Gas vapor is said to absorb the latent heat in the combustion chamber, thereby reducing engine ping.

The injector is easily mounted on the dash of any make truck or passenger car and needs no adjustment once properly installed. Water is added approximately every 300 to 700 miles, depending upon weather conditions, altitude, speed and size of the engine. It is never necessary to replace the chemical, says the manufacturer.

With this device, sludge and carbon formation is reduced, according to the Clay Estes Co., since the vapor gas mixes with the gasoline in the manifold, giving complete combustion.

Use Free Postcard For More Details.

P159. Rust Remover-Inhibitor

The I.S.E. Co. (formerly Industrial Sales and Engineering Co.), Los Angeles, is marketing Formula 314 Rust Remover, a product that is said to dissolve rust of all types on iron and steel.

The solution leaves a microscopically thin coating of chemical on the metal that inhibits further oxidation, thus giving it the double function of rust remover and rust preventer. The inhibiting coat makes an ideal base for paint or lacquer, the manufacturer states. This agent will also remove verdigris from copper and brass. It is applied by the immersion method or with a brush or spray gun.

Use Free Postcard For More Details.

P160. Hand-Size Air Hammer

The Salsbury gun is a flexible, all-purpose tool designed for such operations as hammering, chiseling, smoothing, scaling, riveting or peening. This light weight, hand-size gun is equipped with a universal, swivel action, tool holder for working in any position. Speed and force of stroke is adjusted to the required work by the metering action of the air valve which is regulated by a

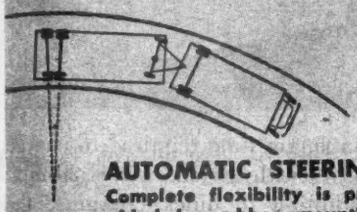
(TURN TO PAGE 136, PLEASE)

THE *BIGGEST* NEWS IN TRAILER HISTORY!

F R

ENGINEERED SIMPLICITY

Here is a running gear built on basic principles. Brake torque load is always in balance—no rear axle kick-up, even on fastest stops.



AUTOMATIC STEERING

Complete flexibility is provided by rubber mounting and two point suspension which permits rear axle to trail front axle — a great tire saver.

NO PARTS TO LUBRICATE

No risks of lubrication failures. Feather-like ride comes from UNDERLOAD SPRINGS which function under light loads and empties (tanker operators, please note). Add the cushioning of rubber (shown in blue) and you know what we mean when we say "Feather Ride".

Feather Ride development has no time for "that's the way it's always been done" ideas. Our engineers did away with all the heavy, service-demanding gadgets like radius rods, torque arms, U-bolts and any need for lubrication. They produced a running gear that transfers hundreds of pounds of cost load to *pay* load, provides the same feather-like ride for empties or overloads, reduces tire scuffing, prevents rear axle kick-up and delivers the most efficient performance known in trailer transportation.

To get your trailers on the pay road FAST, write or wire us direct *today*.

YOUR INQUIRIES INVITED

TRAILER MANUFACTURERS, REBUILDERS, RIM AND WHEEL SPECIALISTS AND FLEET OWNERS!

Write for detailed folder explaining the Feather Ride suspension. Installation instructions also available. Get the full story of this unit that is making the biggest news in trailer history.

THE BIGGEST NEWS IN TRAILER HISTORY

DUAL AND SINGLE AXLE TRAILER SUPENSIONS • AXLES
BRAKES • FIFTH WHEELS • FULL TRAILER DOLLIES

NEW PRODUCTS

(CONTINUED FROM PAGE 134)

conveniently located trigger. Recommended air pressure for proper operation is from 60 to 120 lb.

Standard tools are available for use with the hammer. They include a square nose routing chisel, a 7/8-in. face flat chisel, a marking tool, a metal finishing tool, a scaling tool and a peening tool.

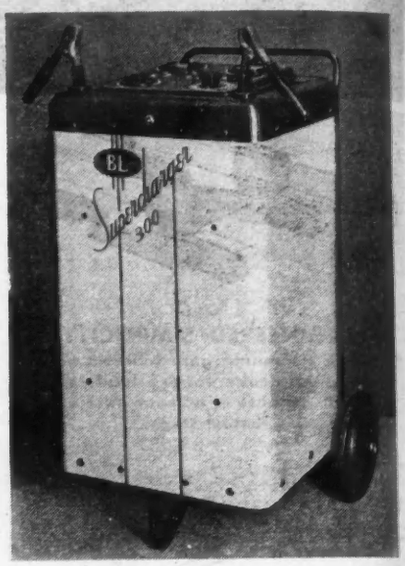
The gun is made by the Salsbury Corp., Los Angeles, Cal.

Use Free Postcard For More Details.

P161. Battery Quick Charger

The Benwood-Linze Co., St. Louis, Mo., is again in production of the Fast Battery Supercharger, embodying new engineering features. Delicate and complex parts have been eliminated, and moving parts have been reduced to a minimum. Overload circuit breakers on d.c. lines protect the charger from excessive power loads. The a.c. lines also carry overload circuit breakers.

The unit is portable, weighing 130 lb. and is mounted on large wheels with rubber treads. Ten-foot d.c. leads and 20-ft. a.c. cords permit easy access to the power supply.



Maximum time required to charge batteries with the charger is 20 min. In addition to quick charging, the charger detects and registers shorted and defective batteries, sulphated batteries and provides for the elimination of sulphation, according to the manufacturer.

Two superchargers are designed: one to operate from 100 volt, 60 cycle, a.c.; the other from 220 volt, 60 cycle, a.c.

Use Free Postcard For More Details.

END

(Please resume your reading on P. 62)

An example of the modern truck tailored to the exacting requirements of the user if found in the operations of the Arctic Ice Co., Louisville, Ky. This Model WA-22 White Super Power truck for icing refrigerator cars is equipped with a Heil Hi-Lift body which boosts the load to the roof level of the cars to be iced. The body holds a total of 36, 300-lb. blocks of ice at a time

"Well" THE MAINTENANCE BOSS EXCLAIMED, "I'll be a small mouth bass!"

1 "Look!" he challenged, "are you trying to tell me this PROTECTO truck mirror housing eliminates vibration?"

"Precisely," I grinned. "It's the new patented truss construction that does the trick."

"Never heard of it," he said, giving me the business. "Why is it better than ordinary tube construction?"

"Because," I shot back, "with truss construction we can make a larger and heavier housing." "Now," I added, "here's the point. Since this Extra Heavy Duty 439 PROTECTO mirror has a tapered, oversized truss housing, you now get *firmness* where strain is greatest. This means extra rigidity—more basic support for the mirror head—maximum strength with minimum vibration!"

2 "Those features sound swell," he admitted. "I suppose this new 439 model has all the exclusive PROTECTO rubber rim features too?"

"Absolutely," I assured him. "Now here's another important feature of this 439 mirror—the way it's painted."

"All truck mirrors are painted, son," he laughed. "Don't tell me that's an exclusive deal with you fellows."

"Think not?" I said. "Listen! Tube constructed mirrors are painted on the outside OK, but it's difficult to do a thorough job inside. With two-piece truss construction we paint each piece inside before assembly. This gives you double protection against weathering deterioration!"

"Well, I'll be a small mouth bass," he exclaimed. "I'm sold on this 439 PROTECTO hook, line and sinker!"

HERE'S WHAT THE PROTECTO RUBBER RIM DOES

- Forms a protective cushion for mirror glass—minimizes breakage.
- Holds mirror glass and head firmly in place because it's inner-grooved—no loose rings or washers needed.
- Provides an absolute waterproof seal—lengthens mirror life.
- Eliminates deterioration of silvering because there's no contact between rubber rim and silvering on back of glass.
- Permits easy mirror replacement.

FAMOUS KING BEE PRODUCTS

PROTECTO Rubber Rim Bus Mirrors—HY-POWER Truck Lamps
PATENTED PATENTED

Indestructible FOTO-RAY Reflectors
PATENTED

Manufactured by AMERICAN AUTOMATIC DEVICES CO.
502 S. Throop Street, Chicago 7, Illinois

OTHER PUBLICATIONS

(CONTINUED FROM PAGE 58)

Ideal Issues Booklet

The Ideal Commutator Dresser Co., Sycamore, Ill., has published a new 36-page booklet entitled, "Motor-Generator Maintenance and Repair Equipment." The catalog lists cleaning stones, grinders, undercutters, gages, and many other types of equipment used in overhaul jobs.

Trucking Guide Issued For Returning Veterans

Faced by the fact that in some cities 80 per cent of the requests from veterans are for trucks and other automotive equipment, American Trucking Assns., Inc., Washington, D. C., announces publication of a 64-page guide for veterans of World War II called, "Getting Into The Trucking Business."

The guide will be distributed by ATA and its 52 affiliated state associations. It will also be distributed by the Veterans' Administration, American Legion, Veterans of Foreign Wars and other organizations counselling the returning veteran.

The guide, pocket-size, contains a directory of all trucking associations affiliated with ATA and is set up to give the veteran complete information on local trucking conditions.

Hoof Offers Governor Manual

A new governor manual entitled, "Everything Under Control," has just been published by the Hoof Products Co., Chicago, Ill. The manual contains 48 pages of information on the Hoof governors of several types, specifications for the cantilever spring governors and illustrations and range charts for convenience in ordering.

K. O. Lee Issues Catalog

The K. O. Lee Co., Aberdeen, S. D., has published a new 12-page catalog covering valve seat ring specifications for nearly all types of cars and trucks. Along with these recommendations, made from engine manufacturers' specifications, the catalog lists and illustrates various tools and equipment for installing valve seat rings.

Mid-Continent Offers Folder

The Mid-Continent Petroleum Corp., Tulsa, Okla., has just published a new folder, entitled, "Heavy Duty Motor Oil." The publication is available upon request from the company.

Airco Issues Catalog

An up-to-date price list and catalog of gas welding and cutting supplies and accessories has been published by Air Reduction, New York, N. Y. This 16-page booklet contains illustrations, descriptions, engineering data and current prices of these products.

Industrial Rayon Issues Booklet

The story of rayon's use in tires, which has increased to more than 20 times its pre-war volume, is aptly told in a 16-page illustrated booklet, "Rolling on Rayon," just released by Industrial Rayon Corp., Cleveland, Ohio.

Copies of the booklet are available upon request.

(TURN TO PAGE 141, PLEASE)

OTHER PUBLICATIONS

(CONTINUED FROM PAGE 138)

Auto-Lite Offers Calculator

A pocket-size rapid calculator to determine the recommended loading of standard gage primary wire has been developed by the Merchandising Division of The Electric Auto-Lite Co.

The calculator, which is printed in appealing colors, allows for the instantaneous determination of the gage of wire recommended for headlights, tail, marker and rear light circuits, as well as correct generator and power circuit wiring. Trade numbers of the various wire gages also are shown.

Herbrand Issues Catalog

The Herbrand Corp., Fremont, Ohio, has published a new 56-page catalog listing Herbrand Quality tools for the mechanic. In brilliant colors and illustrating many new up-to-date tools, the catalog is available free of charge from the manufacturer.

Molded Materials Issues Catalog

Publication of a new 52-page catalog covering all phases of Mold-Blok brake lining information has been announced by Molded Materials, Ridgeway, Pa., a division of The Pharis Tire & Rubber Co.

The catalog is highly illustrated and gives complete relining instructions, data and recommendations on all types of passenger cars, trucks, trailers and buses.

Bellows Offers Bulletin

A New bulletin listing and describing Bellows Air Motors has been published by the Bellows Co., Akron, Ohio. The 8-page publication features a dimensional drawing of two models of the air motor and lists various accessories available from the company.

END

(Please resume your reading on P. 59)

D. B. Sayre has been appointed manager of the new merchandising organization of the Seiberling Rubber Co., Barberton, Ohio

Henry Ford II Succeeds Grandfather as President

Henry Ford II has been named president of Ford Motor Co., succeeding Henry Ford, his grandfather, who resigned.

The appointment of Mr. Ford II, who has been executive vice president since April 28, 1944, was made by the directors after they had accepted Henry Ford's resignation. Mr. Ford II was elected a director of the company on Dec. 19, 1938, and was appointed vice president on Dec. 15, 1943. His advancement to the executive vice presidency came in April, 1944.

The elder Mr. Ford's resignation marks the second time he has relinquished the presidency of the company. Ford Motor Co. directors, in addition to Henry Ford and Henry Ford II, are: Benson Ford, H. H. Bennett, B. J. Craig, M. L. Bricker, R. R. Rausch and Frank Campsall.

SURPLUS PARTS

(CONTINUED FROM PAGE 40)

D. C., or any regional office of that Office. The determination of the Secretary of Commerce, or his designated representative, shall in all cases be final.

The Government warrants its title to the property sold, but makes no other warranty, express or implied, by way of description of the property or otherwise, except as stated above.

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise therefrom, unless it be made with a corporation for its general benefit.

In case of error in the extension of prices to the "Total Price" column in the invoice, the unit price will govern.

The Government reserves the right to reject any or all orders or parts thereof, and to waive technical defects therein. The Government also reserves the right to cancel the order and contract without liability if made on behalf of any principal whose name and address is not set forth in the contract form.

Order and Contract Form

ORDER and contract Form No. OSP75T, shown in Fig. 2, will be used by buyers when placing orders for automotive parts, equipment and accessories. On the reverse side of this form are noted the sales conditions that pertain to sales of parts under this program, as outlined in the foregoing paragraphs.

The buyer will fill identification parts numbers and correct nomenclature from the catalogs of vehicle manufacturers, which are generally available to all wholesalers and distributors, dealers and garages, and also Army Ordnance supply catalogs. Complete sets of Ordnance catalogs will be sent to all regional and district offices. An effort also will be made to have on hand as complete an assortment of manufacturer catalogs as possible. These catalogs will be available for reference and use by buyers.

It is recognized that orders filled out from Ordnance Supply Catalogs, having both the manufacturer and Ordnance part numbers, can be more easily and quickly handled, but it is not practical to have these catalogs available to all buyers throughout the country. Therefore, buyers are encouraged to utilize manufacturers' catalogs, and send their orders in by mail.

The buyer also will be required to fill out Qualification and Credit Form OSP76T to establish the proper trade level of his firm and his credit. Buyers who wish to purchase for cash will be required to fill out only the Qualification portion of this form, Fig. 1, with signature on the second page, Fig. 1A.

On the Order and Contract forms, Fig. 2, the buyer is requested to indicate the maximum quantity of a single item that he is willing to accept. This is believed necessary in order to protect the buyer from being forced to accept a quantity greater than he would wish, in view of inability to advise him of the quantity contained in a single package. It is

(TURN TO PAGE 144, PLEASE)

"Mileage means money to us!"

M. L. ADLEY, Treas.
Adley Express Co.
New Haven, Conn.

"Our East Coast operation of 400 highway carriers traveling over 500,000 miles per month and hauling some 12 million pounds per week, requires careful estimating and cost accounting. For the past 25 years our records proved Armstrong Tires are economical and dependable. I am now looking forward to an even better Armstrong Tire to aid us in reducing operating costs . . . mileage means money to us."

SINCE 1912 hundreds of commercial car operators have learned that *you can't buy a better tire than an Armstrong!* For years, we have pioneered in making tires that wear longer and cost less. You can count on an Armstrong to give you a tire that will perform better, last longer, stand up under all conditions and cost you less per mile of use! That's not a statement—it's a promise, a promise backed by the thirty-year integrity of the manufacturer.

For literature or information write your Armstrong distributor or to Armstrong Rubber Company.

ARMSTRONG TIRES

Manufacturers of Quality Tires and Tubes Since 1912 · General Offices and Plant—400 Elm Street, West Haven 16, Conn.

SURPLUS PARTS

(CONTINUED FROM PAGE 142)

expected that most buyers will not note maximum quantities, but will be willing to accept the quantity contained in a single package without breakage. If the package contains a quantity larger than the maximum indicated by the buyer, the item will be cancelled by the Army and not shipped.

Separate Orders

SEPARATE order blanks should be used by the purchaser for each make and each type or model of vehicle. This will make it possible for orders to be sent to the proper Army depot for filling. Otherwise, it will be necessary to break down each order at the Detroit office.

All selling prices will be fixed for different levels of trade. The base price will be the current manufacturers' list price as shown in manufacturers' catalog. Fixed discounts will be made in accordance with the level of trade as certified by the buyer in qualification and credit Form No. OSP76T, Fig. 1.

All prices are FOB Destination. Merchandise will be shipped on Government Bill of Lading. Consignee should carefully accomplish receipt on the Bill of Lading forwarded to him at the time of shipment, indicating all shortages or damages on the reverse thereof.

Interchangeable Parts

MANY parts of automobiles and trucks are interchangeable. A certain parts number taken from a Dodge catalog may have its counterpart with another parts number in a Chrysler or Chevrolet catalog. In the filling of orders, the Army may ship the part number requested or another part number interchangeable with it. This should be understood clearly by all purchasers, and is mentioned in the Sales Conditions.

Endorse Own Order Forms

PROSPECTIVE buyers should send orders in duplicate to the regional office of Surplus Property which serves the state in which he is located. When ordering on a firm's own order blank the statement, "This order is subject to Commerce Department's Sales Conditions No. 1, dated July 9, 1945, as modified for the sale of automotive parts, and all other terms and conditions as advertised," must be inserted over the signature of the purchaser since these are the conditions under which purchases may be made.

Purchasers are requested to write, instead of calling or phoning, to their regional office of the Office of Surplus Property. Address your letter as follows: Office of Surplus Property, Department of Commerce, Automotive Division, and the street address of the nearest regional office.

11 Regional Offices

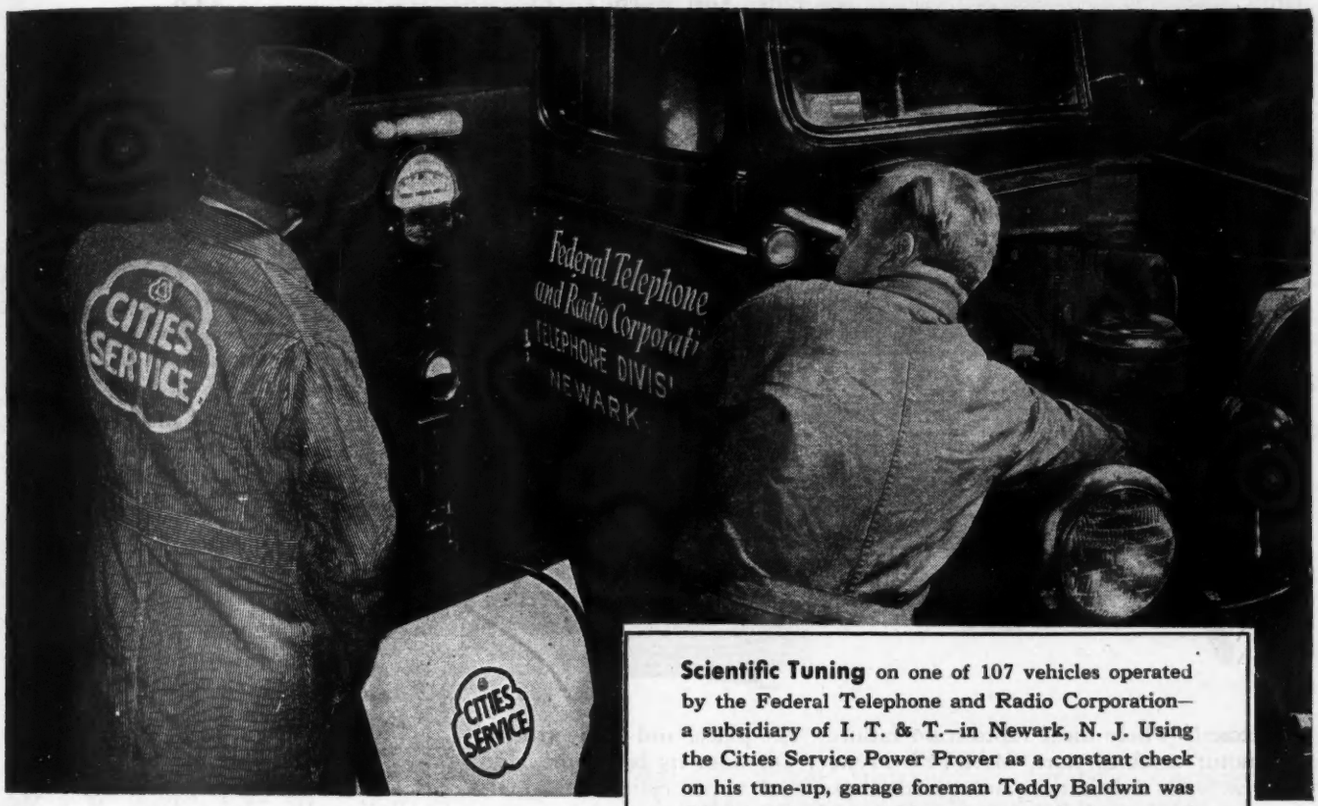
Regional Offices serving the country are:

BOSTON—Firms in Connecticut, Maine, Massachusetts, New Hampshire, Vermont or Rhode Island write: 600 Washington St., Boston 11, Mass.

NEW YORK—Firms in New York or New Jersey write: 61st Floor, Empire State Bldg., New York 1, N. Y.

(TURN TO PAGE 146, PLEASE)

POWER PROVER helps save 520 GALLONS OF GASOLENE in ONE Tune-Up



Scientific Tuning on one of 107 vehicles operated by the Federal Telephone and Radio Corporation—a subsidiary of I. T. & T.—in Newark, N. J. Using the Cities Service Power Prover as a constant check on his tune-up, garage foreman Teddy Baldwin was able to determine quickly and accurately the cause of combustion inefficiency...make proper adjustments... reduce gasolene waste from 28% to 11%—*a saving of 17% on one vehicle alone.*

"I always *prove* the efficiency of my fleet" —says Mr. Bell, superintendent for the Federal Telephone and Radio Corporation in Newark, N. J., a subsidiary of I. T. & T. "When I first came to work here, I tried out the Cities Service Power Prover on the whole fleet of 107 cars. Believe it or not, by the end of the month it helped us *save more than 500 gallons of gasolene*...reduced oil dilution...gave us better engine performance with fewer breakdowns. Now we use it regularly for quick, accurate tune-up."

This offer is limited to principal cities in Cities Service marketing areas East of the Rockies.

CITIES SERVICE OILS
ONCE-ALWAYS

TUNE UP *YOUR OWN FLEET* with the Cities Service *Power Prover*

It eliminates guesswork in your tune-up . . . saves time and labor . . . reduces oil dilution . . . helps you get more working hours from your vehicles, with fewer breakdowns . . . and you'll actually save one or more gallons out of every ten.

MAIL THIS COUPON TODAY for more information on what this remarkable testing device can do for your vehicles.

Cities Service Oil Company
70 Pine Street, Room 464, New York 5, N. Y.

Gentlemen: I am interested in cutting gasolene waste with the Cities Service Power Prover. Please send me more information.

Name.....
Company.....
Street Address.....
City.....State.....
No. of Vehicles in Fleet.....

SURPLUS PARTS

(CONTINUED FROM PAGE 144)

PHILADELPHIA—Firms in District of Columbia, Delaware, Pennsylvania, Maryland or Virginia write: Lafayette Bldg., 5th and Chestnut Sts., Philadelphia, Pa.

CINCINNATI—Firms in Indiana, Kentucky, Ohio or West Virginia write: 704 Race St., Cincinnati 2, Ohio.

CHICAGO—Firms in Illinois, Michigan, North Dakota, South Dakota, Minnesota or Wisconsin write: 209 South LaSalle St., Chicago 4, Ill.

ATLANTA—Firms in Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina or Tennessee write: 105 Pryor St., N. E., Atlanta 3, Ga.

FORT WORTH—Firms in Louisiana, Texas, Arkansas or Oklahoma write: P. O. Box 1407, 609 Neil P. Anderson Bldg., Fort Worth 1, Tex.

KANSAS CITY—Firms in Iowa, Kansas, Missouri or Nebraska write: 2605 Walnut St., Kansas City 8, Mo.

DENVER—Firms in New Mexico, Utah, Colorado or Wyoming write: 1030 15th St., Denver 2, Colo.

SAN FRANCISCO—Firms in California, Arizona or Nevada write: 30 Van Ness Ave., San Francisco 2, Cal.

SEATTLE—Firms in Oregon, Montana, Idaho or Washington write: 2005 Fifth Ave., Seattle 1, Wash.

END

(Please resume your reading on P. 41)

Auto-Lite Makes Appointments

One division manager and 11 district representatives have been appointed by F. A. Nealon, sales manager, Merchandising Division of The Elecric Auto-Lite Co.

Martin H. Kidder has been named Eastern Division manager with headquarters in New York City.

Representatives named include: Anthony P. Dorn, Waldemar Behrendt, George R. Wantz, Eastern Division; John J. O'Keefe and Elmer A. Sbach, Midwest Division; Ray L. Pickett, Glen W. Lawrence and Raymond H. Huntzicker, Center Division; Ernest D. Brown and Rufus N. Ferguson, Southern Division; and Harold E. Reuter, Western Division.

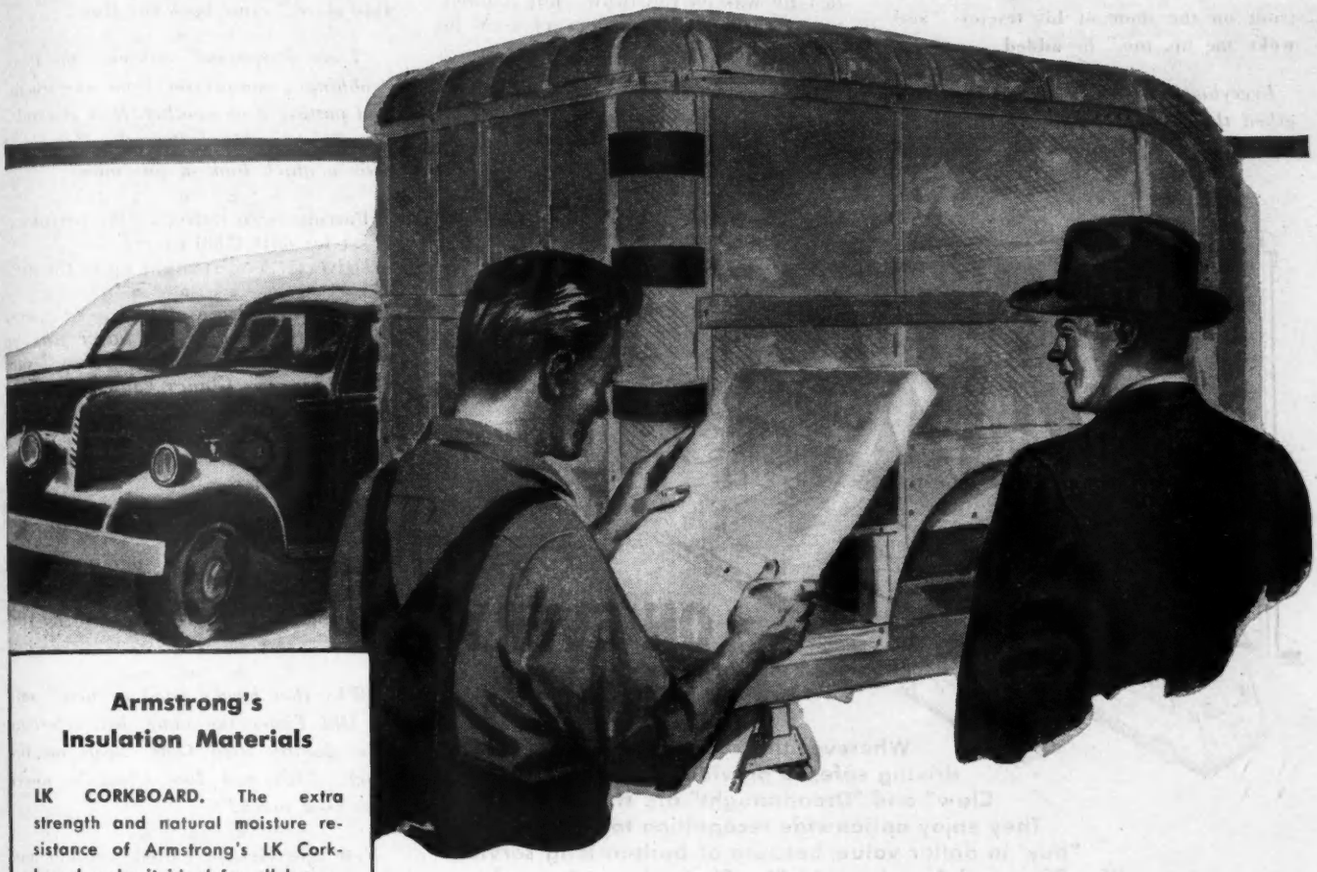
Six new district representatives have been appointed by W. E. Blank, Replacement Sales manager of the Auto-Lite Battery Corp.

New representatives are: M. J. Barber, Des Moins, Iowa; M. S. McWilliams, Hartford, Conn.; G. W. Ray, Oklahoma City, Okla.; E. O. Winings, Indianapolis, Ind.; E. J. Swenson, Sacramento, Calif.; and R. L. McCray, Denver, Col.

John B. Macauley has been appointed director of engineering research for Ethyl Corp., to succeed Earl Bartholomew

Bernard L. Schick has been appointed general agent of the Detroit district for George F. Alger Co., Detroit

Whether a refrigerated truck has 4-wheel drive or 2-wheel . . . . it must keep out heat efficiently



Armstrong's Insulation Materials

LK CORKBOARD. The extra strength and natural moisture resistance of Armstrong's LK Corkboard make it ideal for all heavy-duty equipment. This lightweight insulation is long lasting and is easy to handle on the production line. Reduces vibration—helps support the load.

FIBERGLAS*. Spun from molten glass, felted and bonded into semi-rigid bats — Fiberglas is light in weight, efficient, and inexpensive. It will not sag, burn, decay, or absorb odors. It is verminproof and fungusproof.

TEMLOK.** This highly moisture-resistant fiberboard is made from long-leaf pine. It is rigid, light, strong, low in cost, and easy to handle.

USERS of refrigerated trucks may have different ideas about application of motive power. But they're unanimous on one thing. They all want their trucks to maintain low temperatures with high efficiency.

How well trucks keep out heat depends on the insulation material used and the way it is installed. Effective insulation costs relatively little, but to the user it means great savings and dependability — for which the body builder gets the credit. That's why it will pay you to check and make sure your insulations will deliver maximum operating efficiency.

Armstrong can help you in several ways. It offers tested and proved insulation materials—LK Corkboard, Fiberglas, and Temlok—each ideally suited for its particular purpose. In addition, should you encounter any problems in applying these insulations, Armstrong's engineers will gladly lend their experience and knowledge to help you find the most practical solutions.

For details, write to Armstrong Cork Co., Building Materials Div., 3510 Concord Street, Lancaster, Penna.

* Reg. U. S. Pat. Off. Owens-Corning Fiberglas Corp.
** Reg. U. S. Pat. Off. Armstrong Cork Co.

ARMSTRONG'S EQUIPMENT INSULATION

LK CORKBOARD • FIBERGLAS* • TEMLOK

HEARD BY THE GREASEMAN

(CONTINUED FROM PAGE 41)

Red (Hell on Wheels) came in with a broken mirror. Said he dropped off a hill so fast a piece of the tire flew off a trailer wheel and broke a mirror up front on the door of his tractor—"and woke me up, too," he added.

o o o

Everybody stopped working when Red asked the Boss to put the Tach. on his motor and rev. her down. Then he told us he was going on vacation and wanted the motor cut down for his substitute.

o o o

The inquisitive cop called again and asked the Old Timer what he was making. "A giggling pin for a smiling valve," said the Old Timer innocently. But the officer turned the tables when he offered to give a demonstration of how fast he was on the draw—left handed, too. Everybody ducked every time he slapped his holster.

o o o

JACK THE JERK IS WHAT THE BOSS CALLS THE NEW DRIVER WHO ALWAYS STARTS OUT BUMPITY-BUMP.

Joe of the Hangovers punched in real late the other morning. Explained he had to stay in bed to wait for the eclipse!

o o o

"What kind of language is that?" a driver asked the Boss, profanely installing a compressor. "Well if you don't know you had better go home out of this place," came back the Boss.

o o o

"I got a contract," muttered the Boss, "robbing a compressor from one tractor and putting it on another. Hell of a job." "Yes," sympathized Pete the Helper, "I took a quick look at one once."

o o o

Patrolman to Driver: "My patrol car is set for only 2000 r.p.m."

Driver: "Yes, straight up in the air."

o o o

Clancy the Brain offered to take over for the Boss while the latter was on vacation. "Well, now he's happy," said a mechanic, as Clancy came back from downtown and stood in the center of the shop smoking a big cigar. "Yes, slap happy," muttered the Old Timer.

o o o

The next day Clancy decided to start a new filing system for tractors, and the Old Timer caught him trimming folders with a scissors. "I told you he'd soon be cutting paper dolls," shouted the Old Timer.

o o o

"Why that head's good as new," said the Old Timer the same day, referring to a slightly used GMC head on the bench. "It's just like Clancy's, never been used much."

o o o

Pete the Helper called another mechanic a "creeper snitcher." and Clancy the Brain went around all day muttering the words trying to get them out of his head straight.

o o o

The Maintenance Boss telephoned Clancy the Brain and told him to put a wreck in the "graveyard." "Why we have no graveyard here," said Clancy, blankly, looking across the railroad tracks for tombstones.

o o o

Pat, the little Irish driver, always gives Clancy the Nazi raised hand salute, but always with a "heel" instead of a "heil."

o o o

Clancy, trying to make out his work Sheets: "Pete," did we work Thursday?"

Pete. sarcastically: "I don't know about you, but I did."

o o o

(TURN TO PAGE 150, PLEASE)

THE RIGHT WAY TO BUY TOOLS... THE RIGHT TOOLS TO BUY!

TODAY . . . tomorrow . . . *every working day of the year* this scene is being re-enacted in thousands of service shops throughout the country.

. . . Just as it has been for the past 25 years!

"A Snap-on Man" is visiting a customer. Call his customer "Joe". Joe is a good mechanic, and a busy one.

From repeated calls the Snap-on Man knows the tools Joe needs to bring his kit up to par. He brought the tools in with him. There they are . . . "to see and try before you buy".

Joe selects the tools he wants. There is no pressure to "buy this new type of so-and-so — it's sure a world-beater". The Snap-on Man has sold Joe for years and prizes the faith that Joe has in his recommendations. The sale is concluded with mutual respect and confidence.

Joe, and a vast army of brother mechanics, highly appreciate this dependable, direct-to-user tool service. *So do service managers!* It conserves a mechanic's time, and time is money. And it helps keep tool kits in shape to give the most efficient service . . . and earn *more* money.

Convenient and time-saving though it is, Snap-on service could not be the basic reason for the over-shadowing preference which America's better mechanics have given Snap-on tools.

That comes right down to the bedrock proposition of *making better tools* . . . and the boys in the shops know that's where Snap-on *really shines!*

The 1945 catalog is free . . . write for it today!

SNAP-ON TOOLS CORPORATION
8026-J 28th AVENUE KENOSHA, WISCONSIN

. . . HEARD BY THE GREASEMAN

(CONTINUED FROM PAGE 148)

The time clock was out of order, but the puzzled Clancy punched in an "out" all week at exactly 5:08 p.m. every day.

o o o

Saturday is Ladies' Day, when wives come for their husbands' checks. That day Joe of the Hangovers stays under the tractors because every husband out late always says "I was out with Joe."

o o o

Joe always gives new city drivers directions for deliveries by their location with respect to certain taverns: "Well, you know where Mike's is" or, "so many blocks from Nick's" or, "around the corner from Joe's."

o o o

Joe's cup was brimming over last pay day. He collected his week's pay, vacation pay, retroactive back pay on an hourly increase, and time for working the yard extra for a few days of his vacation. "But," said Joe, "this time I'm going to buy a fur coat for my wife instead of the tavern owner's wife. Anyway, I've already bought fur coats for his whole family."

o o o

Gabriel claims an ex-soldier of the Motor Transport was telling Clancy, also known as Brain, about field timing, and that all day Clancy thought he meant "feel" timing and wondered how to do it.

o o o

"We must never do anything to hurt a Brother," quoted Dizzy from his Union pledge, as he waited until Clancy, also known as the Brain, was under the fender caked with mud and dust and then started whaling away with a heavy hammer on the U-bolts of the gas tank."

o o o

Charlie, the meek mechanic with the talking wife, gets a phone call from home every Saturday morning about his pay check. "She worries more about my money than I do," mutters Charlie.

o o o

The announcement of the picnic said to bring your wife, and someone had added "or someone else's." "I'll bring someone else's," boasted Charlie. "Hell," said Joe, "you know you'll have to get permission even to go to the picnic." "Oh, no, no," stuttered Charlie, "I don't get permission." "That's just it," came back Joe.

o o o

Charlie listened fascinated as two drivers spoke about their wives:

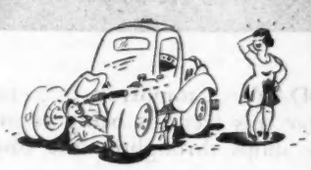
1st Driver: "I've got $150 to spend on my vacation."

2nd Driver: "A pal and I spent $417 last summer."

1st Driver: "But I'll have my alligator with me."

2nd Driver: "Well, we had our alligators, too."

o o o



The buxom Rosie swung into the shop, passing close to a tractor under which Pete the Helper was laying on a creeper, giving him a worm's-eye view. Ten minutes later, Pete said; "Do you know what Rosie made me do? I put up the carrier bearing without the jack shaft." "Went up fine, too," he added. "Nice and light."

o o o

Feets, the fat little bachelor driver who waddles around pointing Rosie, drove up in his car with Rosie in the front seat. "You got something loose in front," said a driver to Feets. "That's his teeth chattering," said Rosie.

o o o

(TURN TO PAGE 152, PLEASE)

GUNITE

BRAKE DRUMS

MAKE $ $ $

A prominent firm of management consultants says "You have to spend money to make money." We would like to prove to you, as we have to many others, that this same principle can be applied to brake drums.

We can prove, by instance after instance, that if you will spend the money to switch to GUNITES, you can *make money* by reducing your brake expense very substantially.

There is good reason and experience behind this claim—good reason based on engineering which has designed a type of drum that gives better performance, and experience based on nearly 20 years of specialized know-how covering the particular problems of manufacturing these drums.

The engineering covers careful casting of a special alloy with the right modulus of elasticity and the most favorable percentage of free graphite, and a design that incorporates solid ribs (not machined grooves) that conduct heat faster and provide stiffness to resist damaging flex on cam and anchor sides.

The results: GUNITES require less service, adjustment, and replacement; give longer lining life and better braking efficiency — all of which means *less expense* for you. Investigate the added advantage of our Direct Factory Shipment Plan. Buy GUNITES — *for better braking.*

MADE BY
GUNITE FOUNDRIES
ROCKFORD, ILLINOIS

GUNITE BRAKE DRUMS...FOR TRUCKS, TRACTORS, TRAILERS, *and* BUSES

HEARD BY THE GREASEMAN

(CONTINUED FROM PAGE 150)

Lippy to Old Dutch, veteran driver, whose motor coughed and died when starting: "Take out the instruction book from under the seat, Dutch!"

o o o

Old Dutch, who likes to sit and drive, then sit and fish, and then sit and drink beer, says his wife wants to move to the country. "The place will have a cobblestone lawn," he said. "You can't sit pushing a lawn mower."

Tireman, watching driver kick tires before a run: "Hey, don't kick that one, it'll blow up in your face. It's a recap, and it's shot."

o o o

Report from Bullhead, of the loud voice:

"Clutch slipped and pedal went to floorboard. I thought the tractor had free wheeling."

o o o

Pete claims the tireman, gross 250 lb., on these nice Indian Summer days spends the first five hours preparing to work, and the next three getting ready to go home.

o o o

Gabriel, the dapper little Yardman, paid his usual noon visit to Mike's but had three beers instead of his customary two. That afternoon he asked a mechanic to back one into a close spot for him. "I've been around the Horn twice already," he said, "and there are just too many doors in that hole."

o o o

Sunday some kids were riding horses in front of the shop. Next day, Lippy of the corny jokes, seeing the hoof prints rushed into the shop shouting to the mechanics, "Well, see what you guys have done? The company's had to go back to using horses."

o o o

Lippy to Blackie, the fussy dispatcher: "Blackie, you've got a neck like a stove pipe."

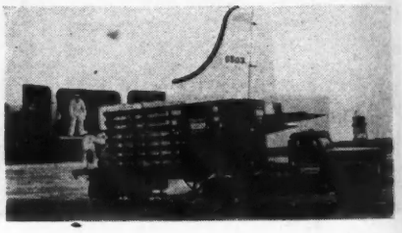
Blackie: "Why, my neck's not so large."

Lippy: "No, but it's just as black."

Blackie: "Go way, or I'll kick you into overdrive."

END

(Please resume your reading on P. 42)



Many transportation experts believe that the combination of motor express and air express or freight will have a phenomenal growth during the next few years. The California Cartage Co., Los Angeles, has just set up a special department to transport air freight to and from airports. This company employs Fruehauf trailers to make deliveries of air cargo to the Douglas Aircraft Co. Airport in Santa Monica. The trailer carries 10½ tons of freight—a normal capacity payload for the giant Douglas DC-4, commercial counterpart of the Army's C-54 Skymaster

Don H. Herr has been appointed manager of Federal-Mogul Service, division of Federal-Mogul Corp.

VALVOLINE FLEET LABORATORY SERVICE

The "STITCH IN TIME" that saved these 10 new trucks

CASE HISTORY C-2558,-2575

This fleet is composed of 25 units—10 of them new. The owners wanted advice on oil drainage periods, but the Valvoline Fleet Laboratory Service found that...

All Was Not Well With Those New Trucks. Analysis of the oil drainage sample proved they were being operated under conditions which, though apparently causing no damage, were storing up plenty of serious trouble for the future. Oil dilution was excessive. Resins were beyond the safety point. Needless lay-ups and costly repairs were ahead!

The Valvoline Report Suggested: First, that both carburetor and choke be adjusted to correct over-rich air-fuel mixture. Second, that the next two drains be made at 500-mile intervals. Third, that drivers be coached to avoid misuse of the choke and needless idling of the motor. Last, but not least—it was suggested that overloading and abuse of the engine should be carefully avoided during the wear-in period.

With These Troubles Corrected, it was easy to "train" these 10 new trucks into sweet-running, economical units with added years of trouble-free service. VALVOLINE FLEET LABORATORY SERVICE will tell you just how to protect *your* fleet, too—it will tell you point by point in simple, easy-to-understand language. Write your nearest Valvoline office today.

Get Out of Trouble . . . Stay Out of Trouble . . . with

VALVOLINE

THE ORIGINAL PENNSYLVANIA MOTOR OIL

COSTS MORE TO MAKE — COSTS LESS TO USE

VALVOLINE OIL COMPANY, 431 MAIN STREET, DEPT. 41-J, CINCINNATI 2, OHIO

New York - Atlanta - Pittsburgh - Chicago - Detroit - Los Angeles - Vancouver, B. C. - Washington, D. C. - Refinery at Butler, Pa.

POSTWAR SHOP ELECTRIFICATION

(CONTINUED FROM PAGE 45)

work could be done most conveniently, were, of necessity, sharply curtailed.

To correct this lighting deficiency and to expand night-work volume the contractor installed 15 floodlights — 750-watt, playground-type. Three of these lamps were used to light a 200-ft., concrete, tire-changing strip. The remainder were employed for yard illumination.

Some of the lamps were attached to the building, while others were mounted on poles. Since the lamps were reflector equipped, this arrangement made possible a good over-all lighting distribution, leaving no dark areas.

More Power Tool Outlets Added

AS PREVIOUSLY mentioned, the shop uses a great deal of electrically-powered equipment, much of it portable. The list includes drills, sanders and precision testing appararatus, such as motor analyzers and the like. Due to some planning oversight, when the shop's electrical system originally was installed, outlets for plugging in equipment of this kind were too few in number and too widely spaced. Consequently, the mechanic who wanted to plug in an electrical device had to waste time hunting an available outlet. And trailing "lead" cords were longer than they otherwise would need to be. Hence, more cord maintenance.

To remedy this situation, the contractor spotted 4-outlet receptacles at 10 ft. interverals along the wall behind the work bench. Now, each mechanic has, within easy reach, an outlet for attaching a power tool or piece of testing apparatus.

The shop does a lot of arc welding. Nevertheless, only one outlet of proper type to carry the load—in this case, 50 amperes—had been provided. This single receptacle was replaced by six of improved type. Arc welder outlets are now no more than 40 ft. apart.

Heavier Wiring Installed

OBVIOUSLY, all the installations described required a great deal of new wiring. So, while he was doing the job, the contractor removed all the old (smaller diameter) lighting-system wiring and pulled in new wire of larger diameter. His chief reason for doing this was to give his fluorescent installation maximum efficiency and minimum maintenance need.

Fluorescent lamps give best results in light output and length of service when they operate at manufacturer-rated voltage. Since resistance in any conductor causes voltage to drop in proportion to distance from the supply source, a lamp at 200 ft. from the utility's incoming supply-line will get current at lower voltage than when installed at a 100 ft. distance, other factors being equal. Therefore, the more distant lamp will operate at less than normal efficiency.

A simple means for maintaining a required voltage throughout the length of a long run of wire is to increase the latter's diameter, thereby, decreasing resistance. The first cost of larger-diameter wiring is

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POSTWAR SHOP ELECTRIFICATION

(CONTINUED FROM PAGE 154)

greater than that of smaller size but it is good life insurance for fluorescent lamps.

Similar Changes at Other Shop

SO IMPRESSED were Miami Transit officials with the electrical overhaul at Northside, that they ordered the complete reconditioning of the system at their Central shop. Here, the roof was constructed with a high bay, 36 ft. from the floor. The ceiling over the rest of the building is 18 ft. The general lighting setup consisted of 24 ceiling-hung, clear glass lamps in reflector fixtures. A few of these lamps were 500-watt but most were of lower wattage.

Since, the floor under the high bay is used almost entirely as a lane for shop traffic, the only lighting change made in that section was to replace all lamps with those of frosted-glass type and of 500-watt capacity.

Elsewhere in the shop, a fluorescent installation, similar in all respects to that at Northside was substituted for the old fixtures. Consequently, work-area illumination was brought up to the desired 25-foot-candle intensity.

The location of current outlets for the use of power tools had been better planned at Central than at the other shop, so that few additional receptacles were needed. However, a revamp of other powering facilities was deemed advisable.

Originally, the shop required only low-voltage (110 voltage), single phase current for illumination and for activating small power tools. Later, such equipment as an electric hoist, a lathe, large-capacity air compressors and an oil clarifier were installed. These needed 220 voltage, 3-phase current, so that was brought in as an independent "service," separately metered.

The contractor consolidated the two current sources and arranged with the utility company to measure all electricity used in the building through a single meter. Since this utility's unit rate (and that of many others) decreases as the quantity consumed rises, "bulked" metering enables MTC to buy its current for less money. To this saving add that stemming from the lower cost of fluorescent lighting.

Thus, Miami Transit got its light and powering improvements — and solved its manpower problem—on a self-liquidating basis. And one which pays off in better workmanship, as well as in bigger shop output and in lower current cost.

END

(Please resume your reading on P. 46)

M. F. Peckels, left, has been appointed manager of consumer relations, International Harvester Co., Chicago, succeeding A. C. Seyfarth, right, who has been appointed IHC director of education

BUTYL INNER TUBES EXCEL RUBBER

(CONTINUED FROM PAGE 47)

this does not appear to be a disadvantage since service reports indicate perfectly satisfactory results in military use. Tear resistance is as good as that of natural rubber and probably better, according to some reports. It is said to compare favorably from the abrasion standpoint, this being reflected in the ability to stand up at the "toes" of the tire beads where failures occur occasionally in normal practice.

One tire manufacturer reports on aging tests, showing service life equal to that of natural rubber. In one test conducted by this company, boxed tubes were aged in an oven for 24 hours at a temperature of 100 deg. Centi., (212 deg. Fahr.), then taken out and mounted in tires. They were then run 10,000 miles without any evidence of a failure. In the opinion of the expert, this type of test proves that Butyl is as good as natural rubber and if anything, superior to it from the standpoint of aging.

As to the elastic properties of Butyl—stretchability, flexibility, and permanent set, some observers believe that the Butyl tube stretches out of shape and size and takes a permanent set, gets flabby. If that is true, then a tube after some period of service would no longer fit the original tire. There has been some fear, too, that if a Butyl tube is overinflated for repairs it might grow in size and no longer fit the tire from which it was removed. Such behavior would be detrimental and should tip the scales in favor of natural rubber, if true.

What are the facts as far as they are known? While the tire experts do not agree on the exact details, it is apparently true that Butyl does stretch out more—grow to a larger size—than does rubber. How much more is a question no one can answer too positively. One expert says that a natural rubber tube designed to stretch properly into the correct casing takes a "set" roughly half way between the molded size and the inside of the tire. Butyl tubes, on the other hand, set themselves fully to the container size. Consequently, if Butyl were to grow it would no longer fit the original casing.

"Setting" Properties Not Alarming

THE general contention is that although the Butyl tube does take on a permanent stretch under average operating conditions, it does not get out of shape enough ot prevent its use in the original tire.

One tire expert says that Butyl tubes should not be left inflated—while under repair or inspection—more than 20 per cent above their normal size, and this only for the time required to inspect in the test tank. With this practice the Butyl tube should return to its normal size in four hours or less. But one should not follow the old practice—in the days of natural rubber—of over inflating the tube and leaving it around overnight to be sure there are no leaks. That will ruin the Butyl tube quicker than anything, according to our informant.

Speaking of getting out of shape, don't overlook the fact that natural

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BUTYL INNER TUBES EXCEL RUBBER

(CONTINUED FROM PAGE 158)

rubber tubes stretch too, in fact, they can't stand as much heat as does Butyl. Whereas natural rubber tubes can be ruined by too much heat, Butyl can take it and continue to operate without failure. That scores an important point for Butyl in heavy duty service.

Before the war the tire people used to stress the necessity for matching a new tube with a new tire. But it was common practice to continue the use of an old tube, nevertheless, and one got away with it. With Butyl tubes, it becomes imperative to fit "a new tube with a new tire" owing to the stretch taken on over a period of time. So that's the limitation of Butyl. One can judge whether it's important enough to consider in view of the known advantages over rubber.

Before the war the need for lubrication was recognized but the elastic properties of natural rubber gave one a lot of leeway. With Butyl, proper lubrication to prevent localized stretching and thinning is imperative, so much so that the manufacturers have developed lubrication practices at the factory which take this important feature out of the hands of the user.

Tube Mounts Satisfactorily

SOME people have expressed fear that over-inflation of a Butyl tube during repair might ruin it and make it impossible to replace in the original casing. According to the experts this fear is groundless. In the first place, over-inflation of a free tube does not impose enough stretching—does not overload the tube sufficiently—to cause it to change dimensions or shape. While it is true that a used Butyl tube will not fit a new tire because of its increased, out-of-shape condition, with reasonable care the used tube mounts satisfactorily in a used tire. Flats or other temporary failures can be repaired without ruining the fit of the Butyl tube in a used casing.

On the other hand natural rubber has other serious disadvantages. Buckles or folds introduced in a natural rubber tube in mounting will promote early failure. Yet the same buckles or folds will not affect the serviceability of a Butyl tube. So you can score another point for Butyl.

The tire people recognize that the "set" of Butyl tubes is something higher than for natural rubber. They do not consider this alarming, for the reasons mentioned above, but they expect to develop techniques for ironing out the difference. They do know that it is an improved air container, superior to natural rubber. They also know what to do about making improved techniques for matching the elastic properties of rubber and intend to put them into use at the earliest moment.

The fact is that the Butyl tube is superior to natural rubber as an air container. The tire people fully expect that rubber tubes will not come back after the war. The Butyl tube is going to be the standard.

END

(Please resume your reading on P. 48)

Multiple-Ply Cover . . .

Much Longer Wearing Than on Passenger Car Belts

30% Stronger Cords Than Used in Passenger Car Belts

Special

Heavy-Duty Compound

note Especially

the Patented

CONCAVE SIDE

Like all Gates Belts, the Gates Truck Belt is built with the famous, life-prolonging Concave Side—a Gates Patent.

Look for this T

This letter "T" on the Gates Belt Container stands for "Truck." It means that this Gates Belt has been specially-engineered for truck and bus service.

Gates Jobbers Now Have Stocks to Serve You

50% to 80% Longer Wear

By Actual Records of BIG USERS . . .

SACRAMENTO, Calif.

90% LONGER SERVICE

". . . gives 90% longer service than even your pre-war belt."
W. T. Smith, Shop Supt., Gibson Lines.

UNIVERSITY CITY, Mo.

LASTS 75% LONGER

". . . lasting 75% longer in very tough service."
Midland Motor Bus Co.

JARREL, Tex.

50% TO 60% MORE SERVICE

". . . giving 50% to 60% more service—far the best we've used."
Jarrel Motor Co.

LEXINGTON, Ky.

70% INCREASED LIFE

"We have increased belt life about 70% with your Truck belts."
Lexington Railway System.

ST. PAUL, Minn.

MUCH LONGER WEAR

"Your truck belt is giving so much longer wear we have adopted it for all our equipment."
Connolly Contracting Co.

CHICAGO, Ill.

80% LONGER WEAR

"We are getting 80% longer wear than any other belt ever gave us."
All American Bus Lines.

KANSAS CITY, Mo.

80% TO 100% BETTER

"Gates Truck Belts are doing an 80% to 100% better job for us."
Adams Transfer and Storage.

NEWARK, N. J.

CUTS COSTS IN HALF

"Since adopting Gates Truck Belts we are using only half as many belts as before."
Bloomingdale Dairy Co., Inc.

THIS IS A Gates PRODUCT

THE MARK OF SPECIALIZED RESEARCH

The GATES RUBBER CO., Denver, U. S. A.

World's Largest Makers of V-Belts

CCJ NEWSCAST

(CONTINUED FROM PAGE 100)

L. E. Mesam Joins NHUC

Louis E. Mesam, after three years of public relations work with the Army Service Forces, has joined the National Highway Users Conference, Washington, D. C., as public Information director. Mr. Mesam brings to the Conference a wide experience in the public relations field.

Truck Advisory Committee Asks Price Ceiling Suspension

RECONVERSION price problems in the truck industry were highlighted at a meeting of the Truck Industry Advisory Committee with OPA on Sept. 14, when the industry asked OPA to remove price ceilings on all commercial vehicles and on component parts used in their manufacture.

The Committee recommended that price ceilings on commercial vehicles be suspended for the following reasons:

1. The number of manufacturers producing commercial vehicles is so large and their methods of production and distribution so varied that any uniform formula of price regulation would be extremely difficult to evolve and apply fairly to all manufacturers of such vehicles. As an alternative, if OPA ruled against suspending price control, the industry asked for equal treatment with the automobile producers, that is, pricing on a company basis rather than industry-wide.

2. The purchase of a motor truck is a capital investment and reaches consumer costs through depreciation charges over a long period of years as part of the cost of transportation or delivery, consequently it has little relation to increases or decreases in the cost of living.

3. The uses of commercial vehicles fall to gerat extent in transportation of materials and in many instances under interstate commerce control. Being in competition with railroads and other means of transportation the manufacturers and users of commercial vehicles should not be discriminated against by the undue burden of price control.

4. Under WPB production allotments during 1945 and 1946, the industry has prepared itself to produce trucks by November, 1945, in numbers equivalent or greater than the 1941 rate of production and provide a competitive situation similar to that which existed in prewar years.

According to OPA, it is not likely that either the truck or parts recommendation will receive early approval. In regard to parts, OPA does not feel that the truck industry has the same buying power as the automobile industry, which was one of the major factors in removing price control from parts used as original equipment in the manufacture of passenger cars.

Competition for trucks among users will not permit lifting of truck ceilings at present, according to

(TURN TO PAGE 166, PLEASE)

"Now that victory has been won
--and war production completed--

HEIN-WERNER HYDRAULIC JACKS are available

for civilian automobiles and commercial trucks"

Thanks for being so understanding throughout the war period when the Hein-Werner factory worked day and night producing hydraulic jacks required by our armed forces.

Now that Germany and Japan have been defeated, our vast manufacturing facilities are again being devoted to the production of hydraulic jacks for civilian needs.

We believe we are conservative when we say "Today there are no better jacks made than those developed and produced by Hein-Werner." These modern H-W Jacks are compact, sturdy, super-powerful, and easy-operating. They are *built right* and *priced right.*

Made in models of 3, 5, 8, 12, 20, 30 and 50 tons capacity . . . For details, consult your Hein-Werner jobber, or write us.

20 TON MODEL ILLUSTRATED

HEIN-WERNER MOTOR PARTS CORP., WAUKESHA, WISCONSIN

CCJ NEWSCAST

(CONTINUED FROM PAGE 164)

OPA. In addition, the price agency does not believe that trucks would meet the criteria of OPA's decontrol order, as approved by the Office of Economic Stabilization, because of the importance of trucks in the transportation of food and other essential commodities.

Pending OPA's formal decision on these recommendations, the Committee asked that manufacturers requiring price adjustments be given relief under existing procedures.

John S. Hutchins Heads Ramapo Ajax

John S. Hutchins has been elected president of Ramapo Ajax Division of American Brake Shoe Co. Mr. Hutchins has been with Ramapo Ajax since 1925, becoming sales manager in 1941. He was made executive vice president in 1944.

Factory Appointments

Douglas W. Ogilvie, is sales manager of the Miller Mfg. Co., Camden, N. J., manufacturers of Wonder Weld Products.

Felix Doran, Jr., has been reappointed as general manager of the Fleet Division of General Motors.

George M. Ryerson, field engineer of the Plomb Tool Co., is regional sales manager for Michigan, Ohio and Indiana area.

Jack Schaub, Oak Park, Ill., is sales representative for the Yankee Metal Products Corp. covering the states of Illinois, Wisconsin and Minnesota.

Cliff Franklin, is salesman for the Fruehauf Trailer Co. of Cincinnati, Ohio.

Tom Blevins, is sales engineer for the L. J. Miley Co., Inc., representing the southeastern territory.

W. R. Walters, is manager in charge of the new branch of the United States Rubber Co. in Omaha, Neb.

James Prendergast, is general freight agent for instrastate territory, Geo. F. Alger Co. John A. Poos, as manager of the Jackson terminal for the Company.

Fred Michael, former manager of the Indianapolis branch of the Trailmobile Co., now is Cincinnati sales representative for Mack Trucks, Inc.

E. C. Leach, is manager of Kraft recapping and tire accessory sales for the General Tire & Rubber Co.; S. S. Berry, is manager of the battery and special items sales department; J. A. Beckett, is head of field service and engineering; J. E. Powers, is manager of automobile tire sales; and R. H. Harrington, is head of the advertising and sales promotion department for the company.

Douglas Charters is now assistant district manager for Turco Products, Inc., Los Angeles, in the southwest territory.

O. W. "Tuck" Tucker has joined the sales organization of The General Tire and Rubber Co., working out of the Memphis, Tenn., office.

O. M. Hullinger has been appointed manager of the Chicago office of the Elastic Stop Nut Corp. of America.

(TURN TO PAGE 168, PLEASE)

Avoid radiator troubles!

Get rid of rust in the cooling system

Du Pont Cooling System Cleanser actually dissolves rust, scale and grease—cleans them out thoroughly without reverse flushing. Now's the time to service the cooling system, before the cold weather sets in—before trouble develops and costly repairs are necessary. After cleaning, put in Du Pont Cooling System Sealer to make it leak-proof, and Du Pont Acid & Rust Inhibitor to make it rust-proof. Prepare for cold weather driving NOW!

COOLING SYSTEM SEALER
—stops leaks quickly and securely. Does not clog the radiator or harm the parts.

ACID AND RUST INHIBITOR
—neutralizes acid and prevents rust from forming in the cooling system. One can lasts all season.

The DU PONT No. 7 LINE

CCJ NEWSCAST

(CONTINUED FROM PAGE 166)

Auto-Lite Develops Water-Proof Ignition System

A completely watertight ignition system has been developed by The Electric Auto-Lit Co. and has been in successful operation on many allied military vehicles. The system is primarily designed for use on trucks, but can be applied to passenger cars.

Born of war in order to facilitate the unloading of trucks in shallow water where docks are not available, the system allows for the perfect performance of the engine and is governed only by the driver's ability to keep his head above water.

Included in the system is the coil, distributor, spark plugs and all connecting wire and cable. Special insulation and construction insures the watertightness of all equipment, including the voltage regulator.

A waterproof generator and starting motor to work in conjunction with the ignition system has also been developed by Auto-Lite engineers. Both starting motor and generator, which require air for cooling, have been specially treated internally for waterproofing.

Previously Auto-Lite announced the perfection of a watertight battery which will operate perfectly to depths of six feet of salt water.

(TURN TO PAGE 172, PLEASE)

A new development in tires—a wire-corded heavy duty tire that is practically blowout proof—has been announced by The Firestone Tire and Rubber Co. Fine metal cord with a very high tensile strength is firmly bonded with rubber to provide the foundation of the new tire. Because of the strength of the metal, fewer plies are required, and the walls consequently are thinner. This attributes toward cooler running. Heat is carried away from the hot spots within the tire and dissipated by the metal. It is said to give 25 per cent more mileage than conventional tires

(CONTINUED FROM PAGE 168)

Survey Finds German Tires Inferior to U. S. Synthetics

"German Buna S tires are no better and probably not so good as American Gr-S tires with the same natural rubber content. To obtain adequate tire mileage, loads and speeds in Germany were on a reduced basis. Poor quality due to high heat generation was alleviated by decreasing tread skid depth and removing breakers, thereby reducing the safety factor." These are facts obtained by a group of technical representatives who toured Germany and inspected tire plants and interrogated German operating personnel after capture by Allied Forces.

Their report has been compiled into an 86-page booklet which is available to the industry, issued jointly by the Rubber Bureau of War Production Board and the Office of Rubber Reserve of Reconstruction Finance Corp.

Engineers at the Phoenix plant in Germany estimated that the rayon passenger tires of 100 per cent synthetic would develop approximately 80 per cent of the mileage of prewar natural rubber tires. There were no outstanding types of failures in passenger tires; the main reason for the tires averaging 80 per cent of the natural rubber was the large percentage of road failures due to factory defects.

As the size of the tire increases, continues the report, the service rating decreases. Medium size truck tires gave 70 to 75 per cent of the mileage of prewar tires, whereas truck tires of ten or more plies would deliver 50 to 60 per cent. However, to obtain this figure, loads and speeds had to be below prewar standards.

The rubber experts inspecting Germany's rubber industry found that German tire makers seemed to have no knowledge of the manufacturing methods, compounds, construction or quality of synthetic tires produced in the United States. The Germans had neither butyl nor neoprene, which are wholly American in origin.

Gas Turbine Engines Offer Advantages Over Jet Propulsion

Jet planes, even with their ability to use heavy fuels, will probably not come into ordinary use for private or commercial planes for a long time, if ever. This is the conclusion reached by the research department of the Standard Oil Co. (Ind.) as

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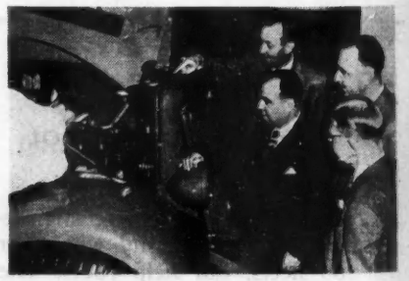

Ted V. Rodgers, president, ATA (center foreground), looks over one of the latest White Super Power Trucks during an inspection of the enlarged White Los Angeles branch. Behind him is R. W. Cochran, Los Angeles branch manager, and in the right foreground is Thomas Paramore, service manager. Behind Paramore is Marshall Naumann, Los Angeles district manager of ODT

CCJ NEWSCAST

(CONTINUED FROM PAGE 172)

the result of a survey of expert opinion just completed.

A jet plane must fly high and fast. Since high-altitude, high-speed flight is expensive no matter what kind of engine is used, the experts feel that jet planes will hardly fit into the economic picture. For a number of reasons, including fuel economy, most commercial flying will be at speeds less than 300 miles an hour and at altitudes below 20,000 feet. Although the fuel burned by jets may be slightly cheaper than gasoline, this advantage cannot offset the greatly increased fuel consumption of the jet-type power plant. In addition, jets are apparently going to be much more critical of their diet than was at first supposed.

However, the piston engine is due to lose much of its present superiority, the survey revealed. Most experts feel that the large airplane of tomorrow will use propellers, but that the propellers will be driven by gas turbines. These turbines may be held back for a time by the fact that they use more fuel than the highly-perfected modern piston engine; but their advantages should eventually enable them to supplant present engines.

Among the advantages of gas turbine engines, it was pointed out that they offer fewer design problems—particularly in large sizes—and they are simpler to operate and maintain. Whereas piston engines become increasingly complex as size goes up, turbines ought to be actually easier to build in the very large sizes than in small sizes. Smoothness of the turbine operation will be another great advantage both to the plane designer and to the passenger.

(TURN TO NEXT PAGE, PLEASE)

Joe L. Young, Jr., left, and Jack L. McCollum, right, have been appointed special representatives in the Houston branch for The General Tire & Rubber Co.

CCJ NEWSCAST

(CONTINUED FROM PAGE 175)

First planes to use the turbines will probably be those flying less than 1000 miles, where the extra fuel will not be a burden. As more heat-resistant materials are developed for turbine blades, and as efficiency therefore goes up, the turbines will be used more widely—particularly as planes are built that need engines of greater than 3000 hp.

New Welding Handbook Reveals War-Tested Techniques

A wealth of information on new welding methods and equipment that obsoletes much of the previous literature on welding has been compiled in a revised edition of the "Procedure Handbook of Arc Welding Design and Practice."

Special effort has been made by the authors to provide complete information to help those in all fields of industry obtain the greatest possible benefits from the process of arc welding in the design and construction of various parts and products and in the use of the process as a maintenance tool.

Significant welding applications developed in various phases of war production are covered, which heretofore have not been published due to restriction. In addition to standard data on welding symbols, speeds and costs, characteristics of metals, preheating, stress relieving, approach to welded design and other pertinent information, the newly revised handbook includes sixteen new subjects such as: new cost tables, new welding techniques, mathematical calculations for weld-designed structures, latest steel specifications on SAE and AISI, underwater cutting, shop ventilation, maintenance of welding equipment, methods of testing, filler metal specifications for arc welding electrodes.

This is the eighth edition of the handbook published by The Lincoln Electric Co., Cleveland, Ohio. There are 1312 pages with 1647 illustrations including photographs and drawings. The book is priced at $1.50 per copy in the United States, $2.00 per copy elsewhere.

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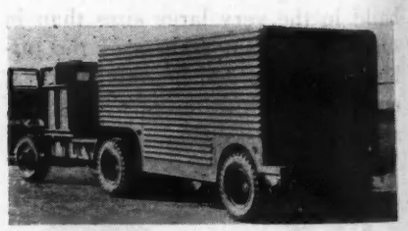


U. S. Army's experimental semi-trailer, designed on aeronautical engineering principles and built of aluminum alloys, weighs 7118 lb., only half as much as standard refrigerated unit now used by the Army. It has an unusually low center of gravity, and is suspended on a revolutionary type of rubber spring which is inflated with air like an innertube. Internal temperature can be maintained at 10 deg. Fahr. in an outdoor temperature of 120 deg. It was designed and constructed for Quartermaster Corps by Fairchild Aircraft

Wagner CoMaX BRAKE LINING
Available For Immediate Shipment
FROM OUR 25 BRANCH WAREHOUSES LOCATED FROM COAST TO COAST

WAGNER'S 25 BRANCHES

ATLANTA
BALTIMORE
BOSTON
BUFFALO
CHICAGO
CINCINNATI
CLEVELAND
DALLAS
DENVER
DETROIT
INDIANAPOLIS
KANSAS CITY
LOS ANGELES
MEMPHIS
MILWAUKEE
MINNEAPOLIS
NEW YORK
OMAHA
PHILADELPHIA
PITTSBURGH
PORTLAND
SAN FRANCISCO
SEATTLE
ST. LOUIS
TORONTO

There are no shortages in the supplies of CoMaX brake lining. External lining, oversize lining, shimstock, drilled sets, rolls, blocks, or slabs—no matter what your requirements may be, we can supply your needs from one of our twenty-five branch warehouses located in principal cities from coast to coast as listed at the left. Not only does the CoMaX line provide complete coverage, for all passenger cars, trucks, buses, and for industrial brakes, but CoMaX brake lining is unsurpassed for quick, safe, smooth stops and for long-wearing qualities.

You will save time and trouble by ordering CoMaX from our nearest branch, and you will gain customer goodwill which only CoMaX can build.

BRAKE LINING
is but one of several WAGNER PRODUCTS serving industry.

Other WAGNER PRODUCTS:

AIR BRAKES
•
HYDRAULIC BRAKES
•
INDUSTRIAL BRAKES
•
INDUSTRIAL BRAKE CONTROLS
•
ELECTRIC MOTORS
•
NoReL
•
TACHOGRAPH
(Recording Speedometer)
•
TRANSFORMERS

B45-9

Wagner Electric Corporation
ESTABLISHED 1891
6470 Plymouth Avenue, St. Louis 14, Mo., U. S. A.
AUTOMOTIVE AND ELECTRICAL PRODUCTS

ARMY E NAVY

CCJ NEWSCAST

(CONTINUED FROM PAGE 176)

Ford Announces Transfers and Appointments

Announcement of several promotions and transfers affecting personnel of Ford Motor Co., branches has been made by J. R. Davis, director of sales and advertising.

M. D. Brown, manager of the company's Louisville branch has been transferred to managership of the branch at Oklahoma City; H. Y. Ingram, manager of the Indianapolis branch, to the Memphis branch as manager; Thomas J. O'Neil, manager of the Memphis branch, to the Indianapolis branch as manager; C. A. Mills, assistant manager of the Omaha branch, to the Chicago branch as assistant manager. W. G. Austin has been promoted to assistant managership of the Cleveland branch, and L. J. Van Horn, sales manager at Chicago, has been promoted to assistant manager of the Denver branch.

P. A. Boykin, assistant manager of the Memphis branch, has been appointed manager at Louisville. He replaces M. D. Brown, who was recently transferred to the Tulsa branch.

J. K. Lester, of the Edgewater branch management staff, has been appointed manager at Cincinnati. He replaces Harold Turner, who recently was named manager of the Dearborn branch.

J. S. Bugas will head industrial relations, a division which previously had not been identified by that name.

Monthly Production of Trucks and Truck Tractors*

	Civilian	Military	Total
LIGHT Under 9,000 lb. G.V.W.			
January	.....	21,621	21,621
February	159	20,641	20,800
March	1,784	21,925	23,709
April	4,746	18,352	23,098
May	5,688	18,633	24,321
June	5,522	16,306	21,828
Total—6 Months	17,899	117,478	135,377
July	3,993	10,693	14,686
Total—7 Months	21,892	128,171	150,063
MEDIUM 9,000 to 16,000 lb. G.V.W.			
January	11,183	3,527	14,710
February	10,534	3,378	13,912
March	12,829	3,994	16,823
April	10,275	3,645	13,920
May	12,003	3,526	15,529
June	12,017	2,093	14,110
Total—6 Months	68,841	20,163	89,004
July	12,726	1,465	14,191
Total—7 Months	81,567	21,628	103,195
HEAVY 16,000 lb. and Over, G.V.W.			
January	3,836	26,898	30,734
February	3,339	26,162	29,501
March	3,726	30,474	34,200
April	3,959	26,302	30,261
May	4,624	26,484	31,108
June	5,592	24,815	30,407
Total—6 Months	25,076	161,135	186,211
July	4,843	21,011	25,854
Total—7 Months	29,919	182,146	212,065
TOTAL—ALL WEIGHTS			
January	15,019	52,046	67,065
February	14,032	50,181	64,213
March	18,339	56,393	74,732
April	18,980	48,299	67,279
May	22,315	48,643	70,958
June	23,131	43,214	66,345
Total—6 Months	111,816	298,776	410,592
July	21,562	33,169	54,731
Total—7 Months	133,378	331,945	465,323

* Automotive Division—War Production Board.

(TURN TO PAGE 184, PLEASE)

Your equipment today simply demands a DOUBLE-DUTY OIL!

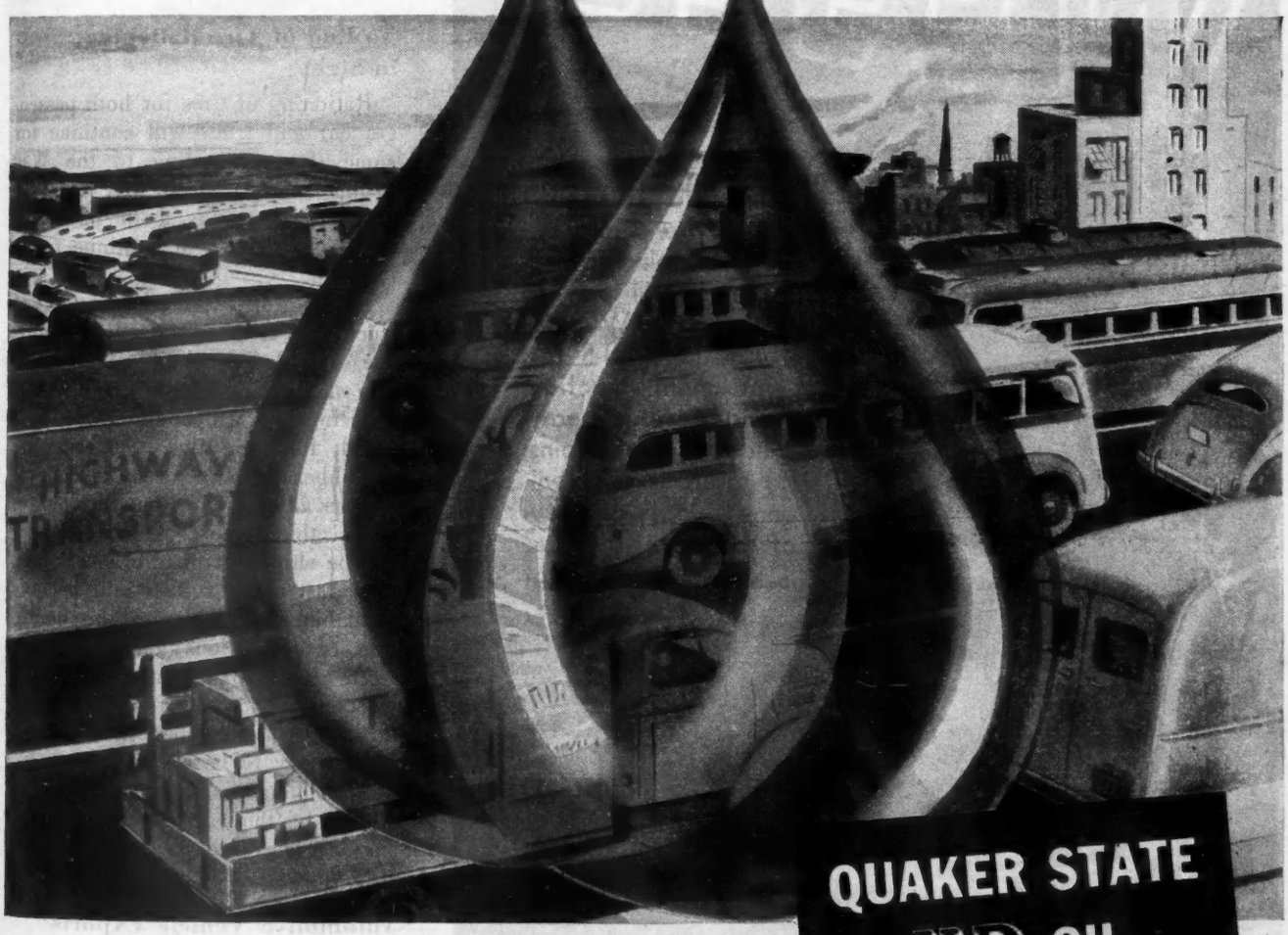
—and here's why

WHEREVER you find an engine used for heavy-duty service—you'll find the problem of heavy-duty lubrication.

And, that problem is easily whipped by using Quaker State HD Oil—a *double-duty* oil that does these two jobs: 1st, it *lubricates*—2nd, it *cleans*.

Quaker State HD Oil is skillfully refined according to a formula developed after extensive study and testing in Quaker State's chemical and engine laboratories—and actual service on the road. It not only lubricates better and lasts longer but contains a special detergent that keeps engines cleaner,—keeps them free from the sludge, dirt, carbon and sticky "varnish" that so often cause serious engine trouble and expense.

Try Quaker State HD Oil. Satisfy yourself that it saves you time and money over the long haul.



Quaker State HD Oil for your trucks, buses and tractors
Quaker State Motor Oil for your passenger cars

QUAKER STATE OIL REFINING CORPORATION · OIL CITY, PENNSYLVANIA

ODT—OPA—WPB

(CONTINUED FROM PAGE 106)

Tank Truck Committee Dissolved

Dissolution of its National Tank Truck Advisory Committee and group of five consultants, as well as 320 additional advisory field committees became effective Sept. 20, the Office of Defense Transportation has announced.

OPA Asks Tire Inspectors to Aid Applicants with Forms

All tire inspectors have been asked by the Office of Price Administration to help inform applicants for passenger and truck tires on how to fill in their application blanks (OPA Form R-1, Rev. 9-44).

Tire applications are being held up because the forms used, which were originally prepared when tire rationing for passenger cars was closely linked with gasoline rationing, are being incorrectly filled in now that tire eligibility rules have been revised, OPA said.

Incompletely filled in forms will be avoided if applicants are told, when they are given a form, to fill in the blanks as follows:

1. Do not check any type of gasoline ration.
2. Disregard instructions to attach a Certificate of War Necessity.
3. On the back of form, all applicants should answer questions 1 and 2 and sign the certificate at the bottom of the form.
4. Applicants for passenger car tires should disregard instructions relative to holding B or C gasoline rations but fill in the answers to questions 4a, 4b and 4c, if applicable, and questions 5, 6a and 6b.
5. Applicants need not answer question 7, but they should fill in the answers to all parts of questions 8, 9, 10 and 11.

No End of Tire Rationing in Sight

Rationing of tires for both passenger car and truck will continue for some time, according to the War Production Board. All first class and all factory seconds, both passenger and truck tires, will continue to be rationed.

Reason for continued scarcity of truck tires is due primarily to shortage of skilled tire builders. Production of tires available for civilian use is rising but will continue in short supply for some time.

Rubber manufacturers believe it will be at least three months before any sizable amount of crude rubber can be shipped from the Near East. How fast crude rubber will become available depends upon the condition of plantations and equipment freed by Japan's surrender and whether or not there is any inventory of crude rubber in liberated areas ready to be shipped.

All commercial vehicles are now eligible for the Grade I tires (passenger or truck) required for their operation.

Automotive Vehicle Exports Placed Under WPB Control

Since the supply of new passenger cars and trucks, now just beginning to roll off the assembly lines, will remain inadequate to meet the full

(TURN TO PAGE 182, PLEASE)

ODT—OPA—WPB

(CONTINUED FROM PAGE 180)

demands of civilian requirements for some time, the War Production Board has announced that the export of such vehicles has been placed under WPB control.

The new order, L-352, prohibits producers of automobiles and trucks from exporting to any foreign country, including Canada, any vehicle in excess of the quantities authorized for such purpose by the War Production Board.

WMC Rescinds 35 Controls

The War Manpower Commission has announced that all but three of the 38 wartime manpower controls have now been formally rescinded.

The three remaining controls are retained because they are necessary to the functioning of the foreign-worker program, which will be discontinued as soon as workers now in the country are repatriated, and to the administration of selective service procedure.

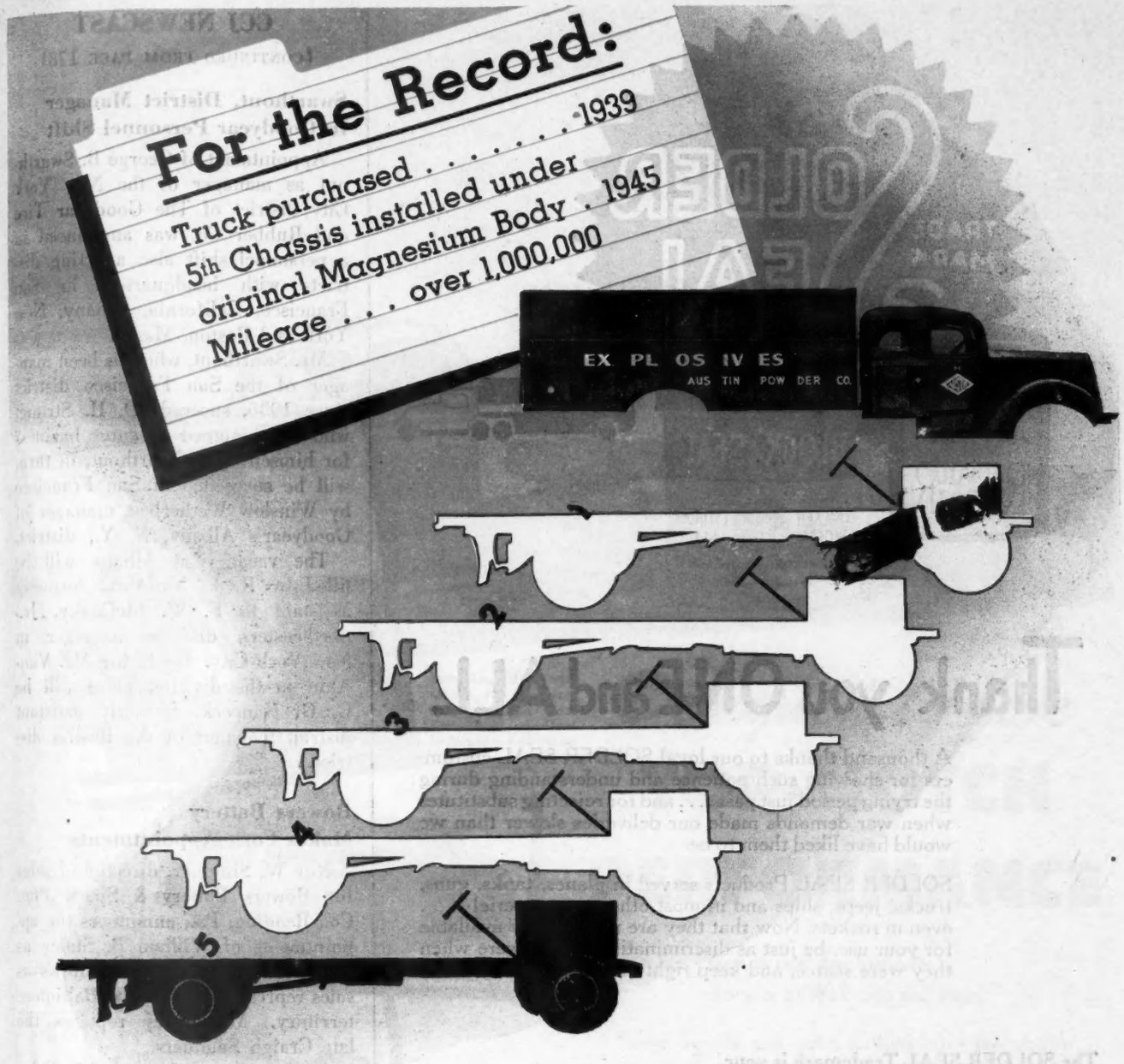
They are: Regulations No. 6 and 8, governing importation of foreign workers, which will be revoked just as soon as the foreign-worker program is liquidated, and General Order No. 9 governing occupational deferment of employes in the Federal Government.

McNutt Praises USES

The transfer of the United States Employment Service and the War Manpower Commission to the Department of Labor marks the end of the greatest manpower mobilization in the Nation's history, according to Paul V. McNutt, chairman of the War Manpower Commission.

"Its job now becomes of paramount importance to the Nation, the States and every individual community during the reconversion period," Mr. McNutt said.

N. B. Hedden has been appointed sales representative for the eastern and central states for the Vortox Co., Claremont, Cal.



So reads the record of the Austin Powder Company on Truck 3-c.

The structural members and floor assembly of magnesium sheet and extrusions took this grueling million miles and more, and are in excellent condition today.

Mazlo Magnesium alloys have the strength and durability that build strong and lasting bodies . . . and the lightness that makes them pay dividends in added payloads, and lower maintenance costs.

Our engineers will gladly help you and your bodybuilder employ magnesium to best advantage. Write Aluminum Company of America, Sales Agent for American Magnesium Products, 1719 Gulf Bldg., Pittsburgh 19, Pa.

MAGNESIUM MAZLO PRODUCTS

REG. U.S. PAT. OFF.

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

CCJ NEWSCAST

(CONTINUED FROM PAGE 178)

Swarthout, District Manager In Goodyear Personnel Shift

Appointment of George B. Swarthout as manager of the New York City district of The Goodyear Tire and Rubber Co. was announced in a personnel shift also affecting districts with headquarters in San Francisco, California, Albany, New York and Boston, Mass.

Mr. Swarthout, who has been manager of the San Francisco district since 1936, succeeds D. H. Strong, who has resigned to enter business for himself. Mr. Swarthout, in turn, will be succeeded at San Francisco by Winslow Wetherbee, manager of Goodyear's Albany, N. Y., district.

The vacancy at Albany will be filled by R. E. VanAkin, formerly assistant to F. W. McConky, Jr., northeastern division manager in New York City. Replacing Mr. VanAkin in the division office will be G. G. Hancock, formerly assistant district manager of the Boston district.

Bowers Battery Makes Four Appointments

Roy W. Shreiner, director of sales for Bowers Battery & Spark Plug Co., Reading, Pa., announces the appointments of William B. Staley as manager and Louis M. Andrews as sales representative for the Baltimore territory. Mr. Staley replaces the late Craigh Saunders.

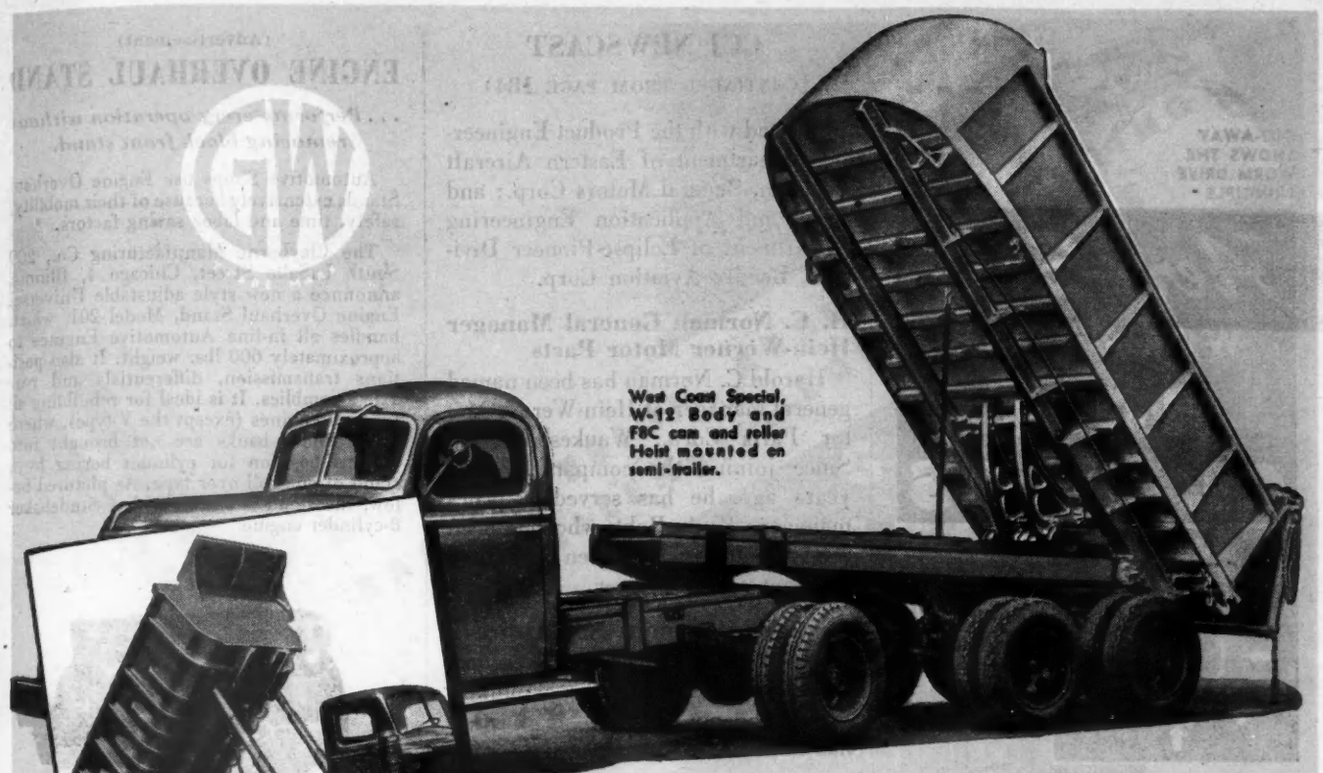
Additional appointments include: Curtis C. Welliver, zone sales supervisor for the southeast with offices at Atlanta, Ga.; and David Waugh as plant superintendent of the new Boston factory which is scheduled to be in production in the very near future.

Stafford Heads Distributor Sales Aircraft Screw Products

I. P. Stafford has been appointed sales manager, Distributor Division, Aircraft Screw Products Co., Inc., Long Island City, N. Y. He will be in charge of the activities of the Distribution Division, which will market Aircraft's Heli-Coil Thread Inserts and other products through automotive distributors.

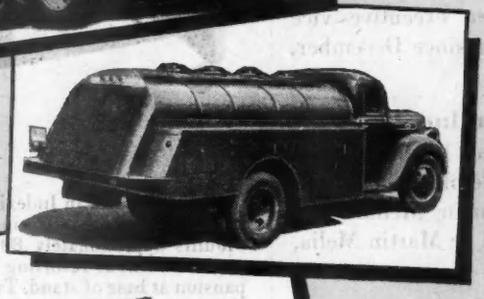
During the war, Mr. Stafford was

(TURN TO PAGE 186, PLEASE)

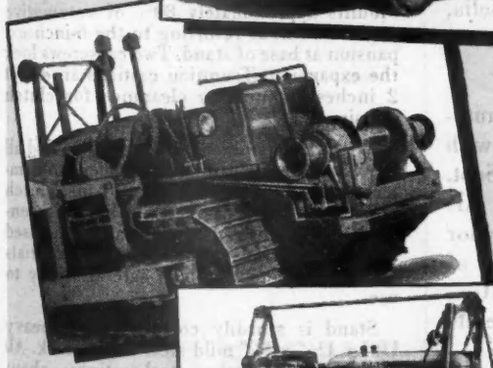


West Coast Special, W-12 Body and F8C cam and roller Hoist mounted on semi-trailer.

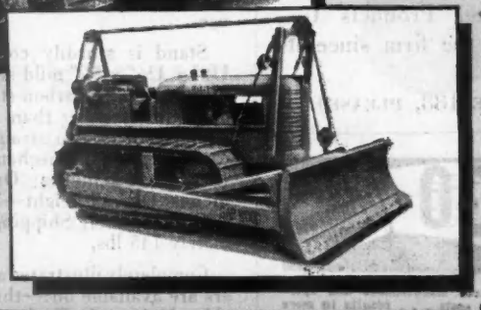
Semi-Rock Body with special rib reinforcement and open end. Cap. 13 cu. yds. Dual hydraulic T-440 Hoists



Gasoline or Fuel Oil Tank T-2174, one of a large and diversified line.



Tractor or utility winches.



Cable Dozecasters with angling blade for Allis-Chalmers HD-10 and HD-14 Tractors.

Designed to give TOP-NOTCH PERFORMANCE

Gar Wood Equipment Does a BETTER Job for You.

Some people just work. Others have the ability to rise above the crowd . . . to distinguish themselves by doing better-than-average work. The same comparison can be made in mechanical equipment. Gar Wood Products have a reputation for top-notch service . . . better-than-average performance. That quality didn't just happen. It's the result of years and years of experience in designing equipment to do a specific job in the best possible way. Gar Wood products cover a wide field of uses and in each case you can be sure of one thing . . . they rise above the crowd. Take advantage of Gar Wood top-notch performance when planning your equipment needs.

BUY MORE BONDS . . . AND KEEP 'EM

GAR WOOD INDUSTRIES, INC.

DETROIT 11, MICH. WORLD'S LARGEST MANUFACTURER OF TRUCK AND TRAILER EQUIPMENT

HOISTS AND BODIES • WINCHES AND CRANES • TANKS • ROAD MACHINERY • HEATING EQUIPMENT • MOTOR BOATS

CCJ NEWSCAST

(CONTINUED FROM PAGE 184)

connected with the Product Engineering Department of Eastern Aircraft Division, General Motors Corp.; and Sales and Application Engineering Department of Eclipse-Pioneer Division, Bendix Aviation Corp.

H. C. Norman General Manager Hein-Werner Motor Parts

Harold C. Norman has been named general manager of Hein-Werner Motor Parts Corp., Waukesha, Wis. Since joining the company several years ago, he has served as sales manager. R. A. Raht, who has been service manager, has been appointed assistant sales manager.

Trailmobile Opens New Office

Trailmobile opened a new factory branch on Oct. 1, at 357 Fountain St., Providence, R. I. G. H. Bartlett has been named manager in charge.

W. T. Kelly, Jr., Heads Kellogg

William T. Kelly, Jr., has been elected president of the Kellogg Division of the American Brake Shoe Co. Mr. Kelly has been executive vice president of Kellogg since December, 1944.

Now Martin Melia, Inc.

Clark and Melia, handling Diamond T in Philadelphia, has been taken over by Martin Melia. The corporate name will be Martin Melia, Inc.

Orlin B Harmon Dies

A well-known figure in the automotive industry was removed with the death of Orlin B. Harmon, Sept. 12, at University Hospital, Ann Arbor, Mich. Mr. Harmon was a senior member of the sales department of The Midland Steel Products Co., having been with the firm since its founding in 1923.

(TURN TO PAGE 188, PLEASE)

BASIC DESIGN ASSURES STEERING EXCELLENCE...LONG SERVICE

GEMMER STEERING

Note the basic design of the Gemmer Steering Gear. An hourglass worm engages gear teeth that *roll*. Anti-friction bearings are placed at all critical points. Absence of sliding friction provides highest efficiency—easiest transfer of power—easy steering with plenty of power for parking.

Design and construction are also exceptionally sturdy and compact—providing abundant strength, long endurance—ease of installation—saving of weight without sacrifice of overall capacity or steering arm angularity. Alloy steel forgings provide ample safety factor. Internal stresses are low.

A Gemmer Steering Gear will last, and *give satisfaction* for the life of the vehicle.

Simple:—Just a few parts—nothing complex—nothing to get out of order or require frequent adjustment.

Stable:—No "lost motion"—wear reduced to least possible minimum. Steering is always firm, responsive, positive with absence of rubbery feeling and wander.

Gemmer Steering is demonstrating its worth in every type of automotive vehicle from the lightest passenger cars to the heaviest buses and trucks—in the road-building machinery, agricultural tractor, and marine fields.

GEMMER
MANUFACTURING COMPANY
6400 MT. ELLIOTT
DETROIT 11, MICH.

GEMMER . . . Pioneer of Efficient Steering

CCJ NEWSCAST

(CONTINUED FROM PAGE 186)

Peo Leaves Houdaille-Hershey

Ralph F. Peo, vice president and a member of the Board of Directors of the Houdaille-Hershey Corporation and general manager of the corporation's subsidiary, the Houde Engineering Division, announced his resignation effective Oct. 1. No statement could be made at the present time, Mr. Peo said, regarding his future plans.

Blind Riveting Speeds Automotive Repair

A wartime advancement that has a practical application in the automotive field is blind riveting. This fastening technique has been developed greatly in aircraft fabrication, maintenance and repair. Its advantages are being translated directly to the automotive field.

Specifically, the application of Cherry Blind Rivets in hard-to-get-at places, double surface jobs and difficult body sheet metal structures is said to simplify fastening. According to automotive men who are using these rivets, installation steps are reduced to a minimum. Only one operator is required for any installation, only one side of the structure need be accessible, no bucking is necessary. Further savings are indicated by the repeated elimination of time-consuming "extras" such as size-drilling, reaming, washer installation and careful setting of self-tapping screws.

This new system of blind riveting is being used on such automotive applications as bodies, fenders, doors, cabs, trailers, flooring, leather, rubber, plastics, tubing, seat frames, hand rails, name and license plates, mirrors and other accessories.

(TURN TO PAGE 190, PLEASE)

THERE'S BEEN A BIG CHANGE

★ Just try to persuade the owner of a modern mechanical corn picker to go back to the old hand-picking methods.

And try to induce an operator of heavy-duty equipment to return to ordinary tapered roller bearings, once he has used Tyson . . .

Yes, there's been tremendous improvement in bearings. Tyson found the way to add 30% more load-carrying rollers around the raceway. Result: (1) Extra capacity, (2) maximum rigidity, (3) longer life. Most users report double the life of ordinary bearings.

Tyson "All-Rolls" Bearings are interchangeable with other tapered roller bearings. Part numbers and prices are the same. Next time, use Tyson.

TYSON BEARING CORPORATION • MASSILLON, OHIO

COUNT THE ROLLS · THE ROLLS COUNT

Tyson

THE LAST WORD IN ANTI-FRICTIONEERING

CCJ NEWSCAST

(CONTINUED FROM PAGE 188)

There are several types of Cherry Rivets in many sizes and alloys, together with various models of rivet guns. At present, the standard Cherry Rivet types are self-plugging, regular hollow and pull-through hollow, each designed to do best a specific type of fastening job. They are manufactured in two head styles, modified brazier and 100 deg. countersunk, in six standard diameters and in various grip lengths.

ATA Asks for a Uniform Freight Classification

The American Trucking Assns. appealed "in desperation" to the I.C.C. for rehearing and reconsideration of the Commission's equalization decision of May 15. The Trucking Associations asked for a "nationwide, uniform freight classification applicable alike to rail and motor traffic," and that the railroad rate case be reopened and heard along with the motor rate case. The petition specifically asked that:

1. A uniform classification be prescribed for all carriers.

2. Principles be defined upon which such a classification shall be based.

3. Class rates be determined which "reasonable and fairly discriminate between carload and less-than-carload shipments."

4. Rehearing of the rail freight case be granted and new evidence be received.

5. The Commission decide and make effective concurrently the new rail and motor carrier classifications and class rate adjustments.

(TURN TO PAGE 192, PLEASE)

Slash FATIGUE MILEAGE *in Your Postwar Fleet!*

When "U. S." Koylon Foam returns, it will be Comfort Engineered to meet any desired degree of depth, density and lightness. And it will spell economy in three ways.

Koylon slashes inefficiency caused by fatigue—its shock-absorbing comfort is a boon to drivers. Koylon is free of parts that constantly need replacement—it's one simple unit of buoyant comfort. And even-wearing Koylon lasts permanently. Covering materials last longer over Koylon.

Here is comfort cushioning of the future that has proved itself in service for ten years. You owe it to your fleet to consider Comfort Engineered "U. S." Koylon Foam in your future plans.

Comfort Engineered

"U.S." *Koylon* FOAM

REG. U.S. PAT. OFF.

"U.S." KOYLON FOAM DIVISION • MISHAWAKA, INDIANA

UNITED STATES RUBBER COMPANY

Serving Through Science

CCJ NEWSCAST

(CONTINUED FROM PAGE 190)

American Bank Credit Plan To Finance Truck Purchases

Arthur J. Morris, founder of the Morris Plan Banks and president of the American Installment Credit Corp., announces the organization of the American Bank Credit Plan (ABC Plan) to finance retail and wholesale purchases of passenger cars, trucks and buses exclusively through local banks and authorized dealers.

The ABC Plan of financing, including fire, theft and collision insurance, will operate through several thousand local banks in the United States, where both wholesale and retail financing will be handled exclusively for recognized dealers.

Dorsey Buys Utility Trailer

Dorsey Trailers, Elba, Ala., has acquired the Utility Trailer Works of Montgomery, Ala., and thus becomes the largest manufacturer of trailers in the South.

(TURN TO PAGE 194, PLEASE)

★ *Ring Leaders*

Since the earliest days of the automobile, American Hammered has consistently supplied piston rings that are a year or more ahead of the field. One American Hammered development *quadrupled* the flying time between engine overhauls in Allied war planes. Koppers Company, Inc., American Hammered Piston Ring Division, Baltimore, Maryland.

AMERICAN HAMMERED

★ *Flexible Power Set-Up*

There's a FLEXIBLE POWER Set-Up especially designed for every type of engine —designed to assure, over a long period, maximum engine efficiency . . . minimum fuel and oil consumption. Each FLEXIBLE POWER Set-Up includes just the right combination of American Hammered COMPRESSION . . . FLEXIBLE POWER . . . and FLEXIBLE OILCUTTER Rings. FLEXIBLE POWER! Pioneered by American Hammered . . . tested on the Proving Grounds of global warfare.

American Hammered Piston Rings

A KOPPERS PRODUCT

CCJ NEWSCAST

(CONTINUED FROM PAGE 192)

Dorsey Trailers' large Sales and Service organization now will service all Utility Trailers, maintaining complete supplies of all Utility Trailer parts and equipment.

All popular models of Utility Trailers, including Utility Pole Trailers and Utility Straight Frame Stake Body Trailers, will be continued and now will be built by Dorsey.

Goodrich Claims New Synthetic Tire Able to Outwear Prewar Naturals

Made of GR-S 10, with wider and flatter profile, new tire has had 16,800,000 test miles

THE first postwar automobile tire, made of synthetic rubber and claimed to be able to "outwear prewar naturals," was "unveiled" recently by John L. Collyer, president of The B. F. Goodrich Co.

Discussing the significance of the new tire's commercial debut coming five weeks after the end of the war, Collyer said the progress it represents "in improving and in working with man-made rubber automatically gives American synthetic rubber increased stature in the world rubber picture."

"General-purpose synthetic rubber now seems destined to take a permanent role in American automobile tires, and will earn its position either because of technical or economic considerations, or a combination of both."

Introduction of the new tire took place at a reception given by the B. F. Goodrich Co. in the Wedgwood room at the Waldorf-Astoria hotel.

A. W. Phillips, general superintendent of the B. F. Goodrich company's tire division, explained the technical aspects of the new tire. He said it owes its ability to outwear natural rubber tires—said to have been proved by a rigorous testing program—to a combination of new construction ideas and the use of a special variety of Government synthetic rubber known as GR-S 10 and developed by B. F. Goodrich engineers.

Mr. Phillips said, "it should be made clear that the advent of this tire does not mean that synthetic rubber, in itself, is now the equal or the superior of natural rubber for use in tires. The chief reason for the high performance record is the strength and durability achieved through construction changes. Yet the GR-S 10—in which a rosin-base soap replaces fatty-acid soap as emulsifying agent in the latex—is an important factor in attaining better wear, cooler running, and greater resistance to tread cracking and carcass bruising."

THE fundamental advance achieved in the new all-synthetic Silvertown tire, Phillips explained, is a

(TURN TO PAGE 278, PLEASE)

★ YOUR SAFETY-GRAM FROM SAFETY SAM ★

When roads get slick and tires are smooth

Expect stalling, danger, and accidents ahead if you're not prepared for them. Get the jump on wintry weather, have your tire chains ready for emergencies. Right now is the time to take stock of your old chains and get them in like-new condition with Pyrene cross chains and repair parts. But, if they're beyond fixing, replace with new chains, and you'll want Pyrene chains to get the best results.

Sell Pyrene DOUBLEDUTY BAR-REINFORCED CHAINS—more than double wear—slightly higher cost.

Ask your Pyrene jobber for the new Safety Sam Chain Guide

It shows your drivers and shop men how to install and conserve tire chains. Your Pyrene jobber has this helpful chart for you; ask him for it today.

Pyrene Manufacturing Company

Pyrene REG. U.S. PAT. OFF. TIRE CHAINS

NEWARK 8 NEW JERSEY

Makers of Pyrene Fire Extinguishers

Affiliated with C-O-Two Fire Equipment Co.

NEW TRAILER SPRINGING SIMPLIFIES SUSPENSION

(CONTINUED FROM PAGE 87)

does away with lubrication, and considerably reduces trailer maintenance, according to the manufacturer.

Rock-O-Coil Trailer Wheel Suspension units have been in use for many months in the trailers of one of America's large and successful truck fleets, and has been thoroughly tested on the highway.

One Rock-O-Coil advantage is its ability to effect an almost uniform weight distribution on both rear wheels, regardless of the location of the load in the trailer. The reason for this lies in the equalization of weight made possible by the heavy steel rear mount which is welded to the trailer frame.

In a recent test, each of two trailers was loaded with 10,000 pounds evenly distributed over the front half of the trailer and another 10,000 pounds loaded entirely on the left side of the rear half. The left side of the trailer with conventional spring suspension was six inches lower than the right. The left side of the trailer equipped with Rock-O-Coil Trailer Wheel Suspension was only one and one-half inches lower than the right side.

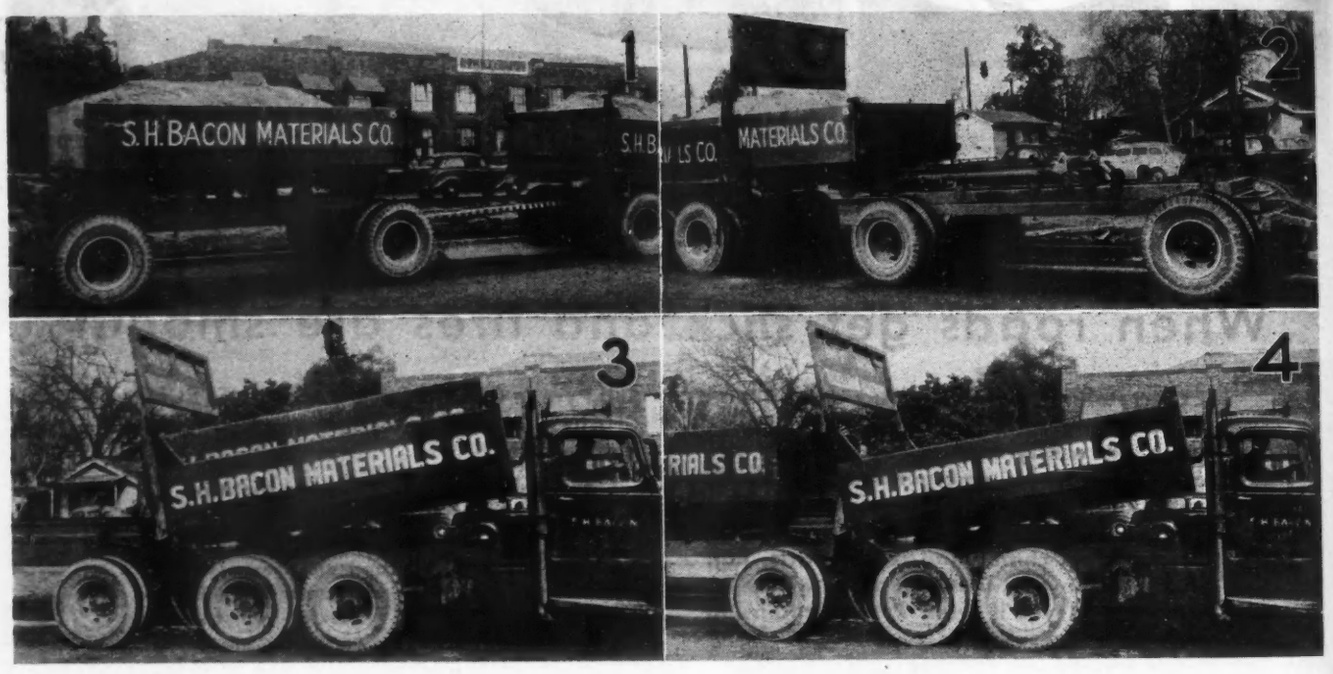
The manufactures of Rock-O-Coil point to many advantages of uniform weight, regardless of road conditions or load distribution, on both rear trailer wheels. Greater safety is obvious, they claim, because much of the roll and side-sway is eliminated. Greater speed is permitted on curves without danger of jack-knifing.

This suspension system is said to overcome the extremely high rate of tire wear caused by unbalanced loading, and to permit the use of larger tires so trailers can safely carry heavier pay loads.

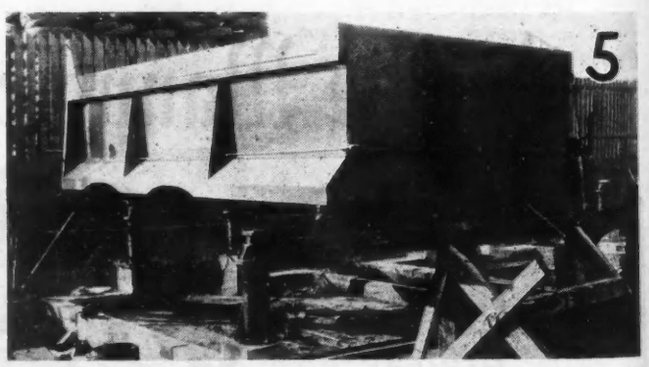
The new type of suspension is claimed to do away with trailer wheel misalignment. It provides a perfect bearing on the "5th wheel." This overcomes undue stress on this vital part, sparing tractor rear-end parts by absorbing much of the shock when tractor and semi-trailer are being coupled.

Installation of Rock-O-Coil is a comparatively simple operation, requiring usually not more than a day's time and no special equipment other than an electric welder. Once installed, the unit will last for the life of the trailer.

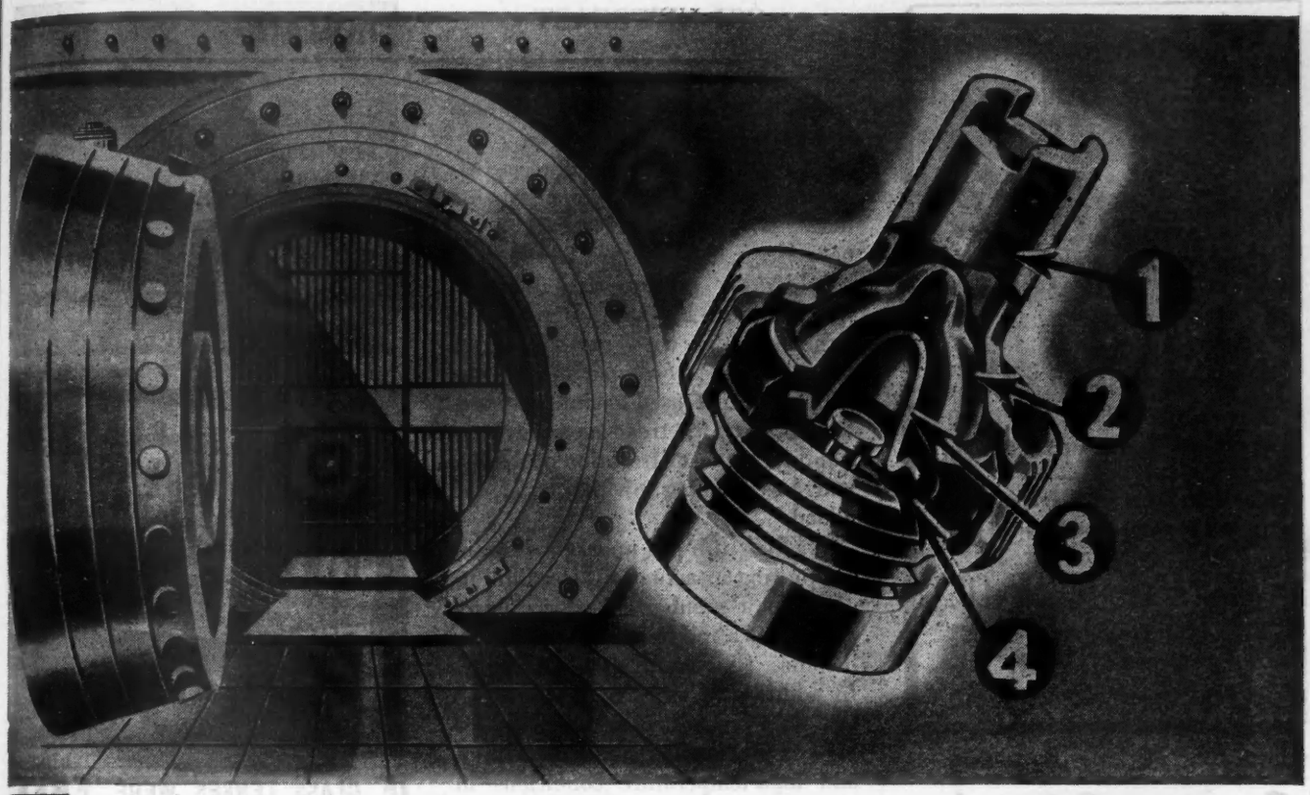
DUMP TRUCK AND TRAILER RIG WITH ROLL-IN BODY



Bodies by Cook Brothers and chassis by Fruehauf Trailer Co., Los Angeles, the truck is a conventional dump body operated by truck-mounted hoist. The trailer is the interesting part of the outfit. The body is known as a "roll-in" body and is dumped by telescoping it into the truck body after the truck body has discharged its load. This is how it is done: Arriving on a job (Fig. 1) the truck is uncoupled from trailer and dumped. Returning, the trailer is coupled close up to the truck and a cable lead fastened to trailer body. Truck winch is started, using truck engine power, and rolled forward within truck body (Fig. 2). Then, the truck takes off with trailer load and puts it with the first load, or anywhere else, and returns. The procedure is reversed, no power is needed, the winch tilts the truck body (Fig. 3), and wham, the trailer body rolls back into place and locks on trailer chassis (Fig. 4). Truck body carries 11 tons, the trailer body 10 tons. This method eliminates a hoist on trailer, loads can be discharged in tight places. And, of course, the one power unit handles two loads. Further, these bodies are easily removed from the chassis and other bodies substituted by the simple means of jacking them up and



driving the outfit out from underneath (Fig. 5). It is claimed the roll-in trailer is not used outside of southern California. Both bodies are 12 ft. long, truck body is 8 ft. wide, trailer 7½ ft.



The CAP that's ENGINEERED TO SEAL

Your dollars are safe behind this modern bank vault mechanism—engineered to seal out even the cleverest thief. The Schrader airtight valve cap with its 1-2-3-4 piece construction is engineered to do an unequalled sealing job too. Its unique design, its special sealing unit, keeps air in at the valve mouth—prevents any air leaks there when the cap is screwed down fingertight.

IMPORTANT TO FLEET OWNERS

Constant and effective tire care is no longer a matter of choice. Now it's *vital*—to keep vehicles rolling. So be sure each tire is checked daily with an accurate Schrader gauge, then properly inflated—and that an *airtight* Schrader Cap is screwed down fingertight on every valve mouth. This positive airtight seal—helps to prevent underinflation—saves precious rubber for longer tire life.

CAPS are vital for TIRE CONSERVATION

A. SCHRADER'S SON, *Division of Scovill Manufacturing Company, Incorporated*
BROOKLYN 17, NEW YORK

Air, air everywhere . . . but not where it counts!

Air costs you nothing—tires cost a lot, if you can get them. Since retaining proper air pressure is so vital to make your tires last longer, why not inflate your tires to proper pressure and *always seal that air in* at the valve with Schrader airtight Caps?

The sealing unit inside all standard Schrader Caps

***Get a set today and* RIDE TOMORROW!**

CCJ NEWSCAST

(CONTINUED FROM PAGE 194)

tread with a wider and flatter profile that rolls more flatly along the pavement. Contrary to popular belief, this is a basic advantage producing longer and more uniform tread wear, he said. It is made possible through considerably greater strength built into the tire by using a new and stronger cotton cord, and increasing the number of cords per inch in the plies. The increased amount of "contact area" of the tread means greater stability, better distribution of weight, and less scuffing of the tread, he added.

The new tire has undergone extensive testing in actual service, Phillips said, on a number of police patrol automobiles and on taxicabs in Philadelphia, Cincinnati and Louisville. In addition, a large B. F. Goodrich test fleet has tested the tires under severe overloading and high-speed and high-temperature conditions in Texas during the past three months. In all, more than 16,800,000 test miles have been run.

When the new tire will be available in quantity to eligible motorists is indefinite at this time, Phillips said.

(TURN TO PAGE 280, PLEASE)

Classified Advertisements

WANTED—EDITOR For publication addressed to truck owners. Knowledge of truck operation and trucking field essential. The man we want is capable of planning, writing, editing high grade periodical for leading national advertiser. Unusual opportunity with long established, well-financed Chicago organization. Salary commensurate with ability and experience. Write in full confidence, including age, experience and salary desired. Our entire organization knows of this ad. Box 74, Commercial Car Journal, Chestnut & 56th Sts., Philadelphia 39, Pa.

Spare parts manufacturer, leaving shortly for France, where he has a completely organized sales distribution, seeks agency for sale and service of any interesting bus and truck parts. Box 75, Commercial Car Journal, Chestnut & 56th Streets, Philadelphia 39, Pa.

William R. Cubbins, Jr., has joined the Mack-International Motor Truck Corp. as national account representative.

CCJ NEWSCAST

(CONTINUED FROM PAGE 278)

Magnolia Petroleum No. 1 in National Fleet Safety Contest

Winners in the 1944-45 National Fleet Safety Contest achieved an imposing 22 per cent reduction over their last year's accident rate, the National Safety Council announced recently in releasing the names of the winning fleets in the annual contest. While the winners showed a notable decrease in their accident rates, the rates for other fleets showed marked increases.

A total of 1443 fleets with 102,901 vehicles competed in this year's National Fleet Safety Contest which was held for the 12-month period ending June 30, 1945. This is an increase of 183 fleets over last year's number of contestants. The total mileage piled up by all competing fleets was 1,561,649,000 miles.

The winning fleets made the remarkable record of only 0.36 accident per 100,000 miles of travel. Overall rate for all fleets participating was 2.24 accidents per 100,000 miles.

The highest - mileage - no - accident winners were all from fleets in the passenger car division. First place went to the Eastern Division of the Magnolia Petroleum Co., Dallas, Tex., whose cars rolled up 1,889,000 consecutive miles without a single accident. Second place winner was the Chicago Milk Division of the Borden Co. and third place went to the Southwest Ice and Dairy Products Co., Oklahoma City, Okla.

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Since 1939
we have been using
SCOTCH BRAND **Wetordry Masking TAPE**
and have found that it is not affected by humidity and that it works equally well in all kinds of weather.

ROSS SUPPLIES
FIRST GLASS WORK
Automobile Tops Recovered or Repaired, Seat Covers, Glass Installed
Ross AUTO TOP Co.
3144 OLIVE STREET
ST. LOUIS, MO.
Automobile Glass Installed, Seat Covers and Cushions Reupholstered

February 8, 1945

Minnesota Mining & Mfg. Co.,
710 No. 12th Street,
St. Louis, 1, Missouri

Gentlemen:-

Since 1939 we have been using the "SCOTCH" Wetordry Masking Tape and have found it is not affected by humidity and that it works equally well in all kinds of weather.

The flexible backing of "SCOTCH" Wetordry Masking Tape makes the job of applying around fenders much easier and we also find that an after clean-up is necessary, which is a great time saver for us, during this man-power shortage.

Yours respectfully,

ROSS AUTO TOP COMPANY

Russ Ruffini

The feature that has contributed most to the popularity of SCOTCH Wetordry Masking Tape is its absolute dependability. In all kinds of weather, on every type of surface, it gives the same clean, sharp masking job. Its flexibility and correct adhesion prevent creeping and lifting under spray pressure. Its thin construction prevents build-up along the edges. Its clean removal leaves no residue on the surface. Today this dependable performance is more important than ever in handling the volume of business that is coming to your shop.

SCOTCH WETORDRY MASKING TAPE IS AVAILABLE AGAIN, IN THE QUANTITIES YOU NEED TO KEEP PACE WITH POST-WAR DEMANDS FOR SERVICE. ORDER IT BY TRADE NAME FROM YOUR JOBBER.

3-M
MINNESOTA MINING AND MANUFACTURING CO.
GENERAL OFFICES: SAINT PAUL 6, MINN.
BRANCHES IN PRINCIPAL CITIES

OUR FLEETS ARE COMING IN

Keep Your Fleets Rolling
With
RUST MASTER *Products*

Keep 'em in fine condition and the operators in money. How? Just use Rust Master and Six Master regularly.

RUST MASTER

will rustproof a 5-gallon cooling system for just 19c.

SIX MASTER

will de-sludge an 8-qt. crankcase for 22,000 miles for just 20c.

Why gamble the life of your motors when "Old Masters" insurance is so cheap?

No Muss, No Fuss-
Just Pour, No More

Rust Master Chemical Co. MFG. CHEMISTS
712 BEACON STREET, BOSTON, MASS.
THE SILENT PARTNERS OF MOTOR EFFICIENCY

CCJ NEWSCAST

(CONTINUED FROM PAGE 280)

Ford Ready to Build Parts Depot in Denver

Construction of the new Ford Motor Co. parts depot at Denver will start in a few weeks. The new parts depot will supply a complete line of Ford passenger car and truck parts to dealers and owners in the Denver territory. Similar parts depots are being constructed at Seattle, Houston and Des Moines as part of the company's $175,000,000 expansion program.

Amalie Offers Booklet

A new 12-page illustrated booklet released by the Amalie Division of L. Sonneborn Sons, Inc., New York, tells the story of Amalie H-D, a detergent-type, anti-oxidant, heavy-duty motor oil. It describes how costly repairs and layups due to faulty lubrication may be avoided and offers constructive suggestions on how operating schedules may be easily and economically maintained with the right kind of lubrication service.

A copy of the booklet may be obtained by writing on business stationery to the Amalie Division, L. Sonneborn Sons, Inc., 88 Lexington Avenue, New York 16, N. Y.

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McCreary Tire & Rubber To Sell Through Recappers

Harry C. McCreary, president of McCreary Tire & Rubber Co., Indiana, Pa., announces that in an expanded program of sales to civilians his company will continue its prewar policy of marketing passenger car and truck tires through established recappers wherever possible.

McCreary plans to extend operations to cover virtually all states east of the Mississippi River and, in granting new franchises, will give first consideration to dealers who have complete recapping equipment.

40,000-Mile Road Network Standards Adopted

The Public Roads Administration has accepted minimum design standards as approved by the American Association of State Highway Officials for the National System of Interstate Highways and for farm-to-market roads on the Federal-aid secondary system.

This will permit PRA to give prompt approval to Federal-aid road-building projects as soon as Congress makes effective the $1.5 billion authorization already voted for the first three postwar years.

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The Interstate standards, highest ever adopted by the AASHO, apply to a new 40,000-mile national network of main, rural and city arteries, which Congress provided for in the postwar road act; America's "highways of tomorrow."

Designation of routes on this system has been completed by 46 states, except for minor revisions to connect the routes at state boundaries. The routes selected correspond closely to the system proposed in 1944 by the National Interregional Highway Committee.

The Interstate standards aim at bringing "built in" safety and high traffic capacity to the one per cent of our road system which carries 20 per cent of all traffic. The states declared these standards must be adequate—or easily made adequate by later refinement of design—for the volume and type of vehicles to use these roads 20 years from now.

Interstate roads must be of the controlled access type wherever legally and economically possible, the states decided. Every effort must be made to eliminate all road and railroad grade crossings where 3000 vehicles per hour must be handled (about 30,000 vehicles per day). This full express highway design also

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is called for on lesser traveled routes if traffic studies show it is justified.

Minimum design speed in cities is put at 40 mph.; in flat rural terrain, 60 per hour; in mountains, 40. The minimum rural right-of-way width for divided highways was set at 150 ft. Higher design speeds and greater widths were declared "desirable."

The Interstate standards omit a minimum on load-carrying ability of the pavement, thus avoiding the question of vehicle weight limits. On bridges and other features, however, the standards would not hamper the raising of vehicle size and weight limits to the new national level proposed by the Interregional Highway Committee.

Roads carrying less than 100 vehicles daily may use 20-ft. roadbeds, and pavements—if any—12 ft. wide. PRA officials estimate such roads can be built for as little as $3000 per mile in flat terrain in states where cheap surfacing material is locally available.

Minimum design speed for flat terrain is 40 mph. for the lowest class of road, rising to 50 for roads carrying 400 to 1000 vehicles daily. For higher volumes than this, regular Federal-State road standards will apply.